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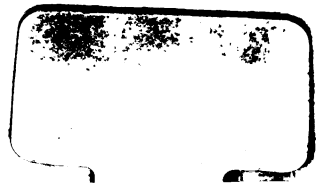

RUDIMENTS

OF

ANCIENT ARCHITECTURE.

FRONTISPIECE.

London, Printed for I. & J. Taylor, at the Architectural Library, Holborn.

RUDIMENTS

OF

ANCIENT ARCHITECTURE,

CONTAINING AN

Historical Account of the Five Orders,

WITH THEIR PROPORTIONS,

AND EXAMPLES OF EACH FROM ANTIQUES:

ALSO

EXTRACTS FROM VITRUVIUS, PLINY, &c.

RELATIVE TO THE BUILDINGS OF THE ANCIENTS.

CALCULATED FOR THE USE OF THOSE WHO WISH TO ATTAIN
A SUMMARY KNOWLEDGE OF THE SCIENCE
OF ARCHITECTURE.

WITH A DICTIONARY OF TERMS.

ILLUSTRATED WITH ELEVEN PLATES.

THE FIFTH EDITION.

LONDON:

PRINTED FOR J. TAYLOR, ARCHITECTURAL LIBRARY, HIGH HOLBORN.

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PREFACE

TO THE

SECOND EDITION.

PUBLIC approbation having made a second edition of this little work necessary, the opportuuity has been embraced, to make such additions as would tend to complete the original design of the book.

The history of the progress of Architecture, and of the five orders, is considerably augmented, and will, it is hoped, be found a pretty accurate sketch of the subject. The description of the Greek and Roman houses, and villas, has never before been collected into one point of view; as

the subject is interesting, it will be entertaining, perhaps useful. Respecting the translation, or rather explanation, of the several names of apartments, &c. it must be observed, the terms are now become obsolete, and from whatever is mere description, every man will conjecture according to his own fancy.

It may be proper to explain here, a seeming contradiction respecting the glazed windows of the ancients, having asserted, (page 78,) "glass for windows was then unknown;" and soon after Pliny mentions the glazed windows of the portico of the *atrium:* the substance used by the ancients for this purpose was not glass, similar to what is now used, but a stone called *lapis specularis*, a species of talc, according to Pliny's Natural History; which, easily splitting into thin transparent plates or laminæ, was fit for the purpose: it has a

similar application now, for objects to be viewed by the microscope.

I shall here suggest, because I think the text did not warrant the translation, that the sleeping room and apartments described by Pliny, (page 86,) as free from noise or other disturbance, were most likely the rooms occupied by himself, and were what we should call the master's apartments: the conveniences and situation of which appear fully to authorize his partiality to them.

To the dictionary, besides many other articles, is added, an accurate ichnographical description of the most celebrated Greek and Roman structures; to render which completely useful, the proper names of parts are retained, and printed in italics: for this part of the work I have been under the necessity of consulting many authors, and

there is no point of any consequence on which I have not examined most of the books on the subject. This part therefore, as it may be relied upon for its accuracy, will, I am persuaded, meet with respect.

To this edition is added a plate of the modern Ionic capital, according to Scamozzi.

Upon the whole, I venture a second time before the public cheerfully; the approbation already experienced, leading me to hope favourably of the future.

PREFACE.

CUSTOM has established the necessity of a preface, which may also be considered as a privilege, authors enjoying therein liberty to explain, and to plead for their labours. Much pleading I am not qualified for, nor perhaps entitled to; I therefore submit to the candour of those, who, by the purchase and perusal of this work, have some claim to pass judgment upon it: the great difference between a perfect work and a good intention, encourages me to explain.

Architecture, as a liberal science, and considered as connected with the study of anti-

quities, is a subject on which every person of taste and reading, at some time or other, has occasion for information; yet that precision in rules necessary to a professional man, is not the kind of knowledge wanted; but something more general which will not fatigue the mind to understand, or burden the memory to recollect. Under this impression, I make public what was originally designed for mere amusement.

The guide I followed in selecting and illustrating, was, a recollection of the wants I formerly felt, when desirous of a general knowledge of Architecture. Many treatises there are on the subject; but as I chiefly sought amusement, the sight of large and intricate works damped the ardour of inquiry, and more than once repelled the desire of knowledge. To understand the productions of scientific writers, required an exertion of attention mere amusement startled at; however,

at last activity was rouzed by the inconvenience of ignorance, and fortunately meeting with Sir W. Chambers's excellent Treatise, the path was considerably smoothened, and trod with greater pleasure than at first I expected: from this and other books I was afterwards induced to examine, the following sheets may be considered as notes or minutes, of what is necessary to be known by one, whose desire, as mine was, is rather general information, than of the minutiæ of the science.—In this view, I hope there will be found sufficient to give a tolerably precise idea of the five orders and their several parts; the engravings exhibit their general effect, and are selected from antiques which have ever been respected for their proportion and elegance: these, with the deviations of modern times, and the historical account of each order, will, I flatter myself, render the acquiring a knowledge of the subject both easy and entertaining; yet sufficiently accu-

rate to enable a gentleman to sketch any drawing of Architecture, fancy or necessity may prompt him to have executed, without erring much from the general rules of design, and from which a workman will readily reduce the smaller parts to the exactness requisite to be worked from.

The frontispiece shows each order drawn to the same height, that their relative proportion and strength may be seen at one view.

That information might not stop at the beginning of the science, I have translated from Vitruvius, what his excellent pen has recorded, as the rules of the ancients in building their edifices or temples, the distribution of columns, and their diminutions. These will, I hope also, be found useful to travellers who visit the remains of ancient architectural splendour and magnificence; as in a pocket volume they will have examples of the

five orders, with the laws observed by the ancients in the great outline of their public structures, by what name and character each order of building is distinguished, with rules for adjusting the columns; from which, an edifice, though in ruins, may, with considerable certainty, be restored to its original form.

I have also added a Dictionary, or explanation of terms used by artists, to express the several parts of buildings; this will, I hope, assist, as well travellers, as those who read the accounts of professional men; it will facilitate the understanding of their labours, and of course, render them more pleasant.

I hope, in its general acceptance, the title of *Ancient Architecture* will be allowed to the following sheets, though noticing only the Greek and Roman styles; omitting to mention those very ancient efforts in the

science, traces of which remain in Upper Egypt, and in many parts of India, the æra of whose foundation is so remote, that no certainty can be formed of their age; they evince much labour and much magnificence. Also Gothic Architecture I have avoided mentioning, not because I think slightly of, or disapprove that light though firm, and grave though pleasant, kind of Architecture, of which this country boasts many of the best and most complete specimens. The effect of awe and reverence this kind of building always produces in the mind, is one of the strongest proofs which can be given of its propriety and fitness for large sacred buildings: these I have avoided, confining myself to the Greek and Roman styles, which may truly be called classical, and which are in most general request and use.

Upon the whole, my endeavour is intended more for the Gentleman than the Artist.—

How far I have succeeded in the several particulars, I leave to others to determine, assuring them I have spared no pains to be both accurate and useful.

The portrait in the title page is of the celebrated JAMES STUART, Esq. generally known by the appellation of *Athenian Stuart:* this is copied from a plate in the second volume of his Antiquities of Athens. From a personal knowledge of Mr. Stuart I can say, this is an extraordinarily good likeness, which, from my respect to the man, as well as to a great artist, I beg leave to multiply.

RUDIMENTS

OF

ANCIENT ARCHITECTURE.

PART THE FIRST.

THE study of Architecture has, in every enlightened age, and by every civilized nation, been held in very honourable esteem; as a necessary and pleasing science, and of evident utility.

When we consider it as improved by the Greeks about the time of Pericles, its perfection and beauty, how conspicuously it exhibited the liberality, splendour, and magnificence of those concerned in erecting structures, the remains of which astonish us; and how highly flattering it was to the mind of man in an age of splendour, to raise edifices which should strike beholders

with admiration; it excites little surprise that every attention should have been given to the practice of Architecture, and that its professors should have received the most liberal encouragement from men of rank and taste anxious for renown.

Persons of the most exalted stations have honoured it as students, and thought it not beneath them to attend to its rules.

In present times, among ourselves, we have instances of dignified persons studying the rules of Architecture, which, united with true taste, have produced designs that would do honour to the genius of the first professors.

Animated by such examples, we cannot wonder that the science should now be regarded with considerable attention: the frequent tours to Italy, Greece, and other parts celebrated for elegant edifices, though now in ruins, have excited a love for, and spread much knowledge and justness of taste among our nobility and gentry, whose leisure affords opportunity for exploring the remains of ancient architectural grandeur; add to this the great industry and attention of some of our most celebrated

architects in examining and delineating those standards of art; the liberal encouragement these have experienced, has enabled them to publish their researches, which furnish amateurs and students at home, with most of the advantages acquirable from visits to Rome, Athens, &c.

The important use of this science, and the elegant accomplishments connected with its study, have almost rendered a knowledge of it requisite to the education of men of rank and taste; and from persons of high rank and large fortune only, can Architecture hope to receive its proper encouragement, either for elegance or extent. My intention is not to enter into a detail of encomiums on the art; but merely to remark its great utility, and by what high characters its study has been, and is honoured.

I proceed, therefore, to my more immediate design, which is, to give a short historical account of the five orders of Architecture of the ancients; which must be considered as the basis of true proportion.

The great antiquity of building is self-

evident. When men first felt the inclemencies of the seasons, it had its beginning, and it has spread wherever the severities of climate demand shelter or shade: we trace it in the Indian's hut, and in the Greenlander's cave; which show in those barbarous parts of the globe, from what mean original it rose to its present glory. And perhaps the neighbourly assistance required in erecting the meanest fence against the inclemency of the weather, was the first introduction of civil society: thus a number of habitations were formed together, and men, in consequence, had mutual conversation and intimacy. It is easy to conceive, that, in this early state of society, genius had expanded but little; the first efforts were small, and the structure simple; perhaps no more than a number of trees leaning together at the top (in the form of a cone) interwoven with twigs, and plastered with mud, to exclude the weather, and complete the work. In this early period, we may suppose each desirous to render his own habitation more convenient than his neighbour's by improving on what had been already done: thus in time,

observation, assisting that natural sagacity inherent even in uncultivated minds, led them to consider the inconveniences of the round sort of habitation, and seek others more spacious and convenient of the square form.

This improvement introduced the necessity of supports for the cross beams, which were to sustain the roof: the trunks of trees were so ready an application, we cannot suppose they hesitated long in their choice. Thus from the nature of things arose the idea of what we now call columns, which have from time to time undergone many changes, and at last have produced those elegant pillars which we term the orders of Architecture.

From early antiquity the Egyptians have been considered as the inventors of arts; and during their prosperity and independence, all other nations sought and studied their philosophy and their sciences; so that being learned in the arts of the Egyptians became proverbial. Among other arts derived from them, antiquity will justify me in numbering Architecture; and here I beg to be understood as meaning

principally that species of original Architecture, where the strength of the fabric was more regarded than its elegance or beauty; yet it must be acknowledged there is much grandeur of idea, symmetry of parts, and elegance of execution, in those temples, the ruins of which yet remain in upper Egypt, at Hermopolis, Tentyra, Thebes, Karnac, Luxor, Apollinopolis Magna, Philœ, &c. parts of which are enriched with sculptured figures and ornaments tastefully composed and skilfully wrought, as are shown in the travels of Pocock, Norden, and Denon: of the great temple at Thebes the latter author says, "of the hundred columns of the portico alone of this temple, the smallest are seven and a half feet diameter, the largest twelve, the space occupied by its circumvallation contains lakes and mountains," &c. From these wonders which still remain, it can only be conjectured what have been destroyed.

Dr. Pocock, speaking of a statue of Isis which he supposed to be three thousand years old, says, "We are not to despise such uncommon remains of antiquity, but to set a value on them; as we see in such pieces

these noble arts in their infancy; and by considering the different workmanship of different ages, we may observe how arts gradually improved, till at length, under the Greeks, they came to the greatest perfection, which their masters, the Egyptians, were too opinionative to learn of their scholars." Denon, in his late publication, *Voyage dans l'Egypte*, in many places asserts the same thing; he has also given what may be considered as very extraordinary, and tending much to strengthen this reasoning, the figure of a regular Doric fluted column, which he saw in one of the galleries of the temple at Tentyra.

I consider it as not to my purpose, to enter into much detail of the rise and progress of Architecture, but think it fair to conclude, that from Egypt, where cotemporary nations sought the arts, and studied the sciences, the Greeks derived their first ideas of building, but which were so changed and improved by transplantation, that scarcely can it be known from what stock they had their origin. The sublime and penetrating genius of the Greeks, anxious to add elegance to convenience, disregarded the mas-

sive and ponderous Architecture of the Egyptians.

Such therefore may be considered the track by which Architecture acquired its elegance; for certainly the structures of Egypt are much more ancient than those of Greece; and as it may be considered the best character of buildings that they provide for the comforts and conveniences of man, so it must be allowed that the Greeks first rendered them productive of grace, elegance, and beauty; for to the fine eye, skilful hand, and sublime genius of that nation is Architecture indebted for its rules of decorum, elegance of design, and taste of ornament, which began to arrive at perfection under Phidias and Praxiteles, aided by the fostering care of Pericles; which period, including the reign of Alexander the Great, must be considered as its climax of grace, elegance, and beauty in Greece.

It has been laid down as a maxim, that the mind of man is influenced by modes of government; and certain it is, the Greeks, with their independence, lost also their superior vigour of genius; and what remained

was, with the spoils of their cities, carried to Rome: wherefore from this period, the Romans must be considered as the encouragers and patronizers of Architecture. From this period also, its progress was great and rapid, though little was done of new invention; but the rules of the Greeks were applied to structures so numerous, and of such wonderful extent, that we doubt which most to admire, the original inventors of these sublime rules, or those who applied them to such stupendous buildings.

There are some authors well read in ancient history who wish to prove that from the Etruscans, and not from the Egyptians, the Greeks imbibed their first ideas of Architecture. The Etruscans (or Tuscans) certainly were well skilled in building, and from these the Romans in their early state sought help in all their large works: the remains of the temple of Jupiter Capitolinus, the Cloaca Maxima, &c. the work of Tuscan artists, show them to have well understood the science and the practice of useful Architecture. However I shall leave these arguments to be more fully discussed

by others; it suffices me to have shown, that the Greeks completed the science of Architecture by uniting the useful and the agreeable. I beg leave further to add, that those elegant antique vases, usually called Etruscan, are now allowed to be of Greek workmanship by able judges, who have examined them carefully in the country where the best have been found, and in the greatest abundance.

To attempt producing an authority or origin for every species of ornament proper to each order, would be wandering in a maze of uncertainty, attended with much labour, and little recompense: the general parts may, with more certainty, have their origin pointed out.

The Plinth, it is very reasonable to imagine, was, at first, simply a square tile or stone, placed under the trunk of the tree or primitive column, to prevent rotting, to which it was exposed from the constant moisture of the earth; it also served as a more firm and solid footing to the column.

There are instances of many buildings

of considerable elegance and extent which have no plinth to the columns. Such as the temple of Erictheus at Athens. The temple of Vesta at Tivoli, and some others: and the old Dorics have neither plinth nor base.

The Torus, or swell above the plinth, may have originated from the root or lower part of the tree being thicker than the part above, which also fixed it more firmly on the plinth; or, as by some it is conjectured to have been only a rope or bandage round the trunk, to prevent its splitting. According to Vitruvius it represents the shoe.

The Shaft of the column has been already noticed.

The idea of the Capital may have originally been suggested by some tree, whose arms spreading just above where it was necessary the upper parts should be cut off, (to be of a proper length,) the swell of the arms very likely gave the first idea of the swell of the capital, which was also attended with this advantage, by being broader on the top, it was better formed for receiving the works above. It would

be awkward reasoning to continue the comparison of a column to the human figure, and so compare the capital to the head of a man.

The Abacus was a tile or stone, placed with intent to throw off the water, and prevents its sinking into the column; or rather it interposed a broader resting plane between the head of the column and the parts above it.

The Astragals and Fillets were bandages round the column.

These conjectures, and conjectures they are at the best, suppose the ideas for all the parts to arise from structures of wood; but if we consider the material of which buildings afterwards were made, and of which only we have any remains, it is but fair to say these several additions to the bottom and top of columns were absolutely necessary in structures of stone, to widen or spread the point of bearing when the diameter of the column was decreased; to every example where the columns are no more than four or five diameters high, the base is wanting; and the very ancient example of a Doric at Tentyra, as given by

Denon, has neither capital nor base, yet in Egypt there are abundance of columns of equal or greater antiquity which have both bases and capitals, although of a peculiar form.

The Architrave consisted of the outward and under beams or ties necessary to hold or unite the columns together.

The Frize was the height occupied by the cross beams which formed part of the roof and tied the building together, and from the projecting ends of which arose the idea of the Triglyph; the intermediate space was the Metope.

The cornice, and its ornaments, were the ends or outer edge of the timbers, rafters, &c. of the roof.

The Mutules, Denteles, Modillions, &c. from the above source also, were accidental hints improved, when to usefulness was wished to be added ornament; and which became permanent, when structures of wood gave place to more elegant and durable ones of stone.

The buildings in Egypt being all constructed with flat roofs, were terminated by a

large projecting Cavetto only, consequently Denteles, Modillions, &c. are not to be found in them; but where the climate required a sloping roof, these ornaments, originating in the form of the roof, are to be found.

The orders as now executed, are five, and range as follow: the Tuscan, the Doric, the Ionic, the Corinthian, and the Composite; which are distinguished from each other by the column with its base and capital, and by the entablature.

The Tuscan order is characterized by its plain and robust appearance, and is therefore used only in works, where strength and plainness are wanted; it has been used with great effect and elegance in that durable monument of ancient grandeur, Trajan's column at Rome; indeed, general consent has established its proportions for such purposes beyond all others.

The Doric possesses nearly the same character for strength as the Tuscan, but is enlivened by its peculiar ornaments; as the mutule in the cornice, the triglyph in the frize, and the guttæ or drops under the

triglyph; these decorations characterize the Doric order, and in part are inseparable from it. Its proportions recommend it where united strength and grandeur are wanted.

The Ionic partakes of more delicacy than either of the former, and therefore, as well as on account of its origin, is called Feminine, and not improperly compared to a matron-like appearance; it is a medium between the masculine Doric, and the virginal slenderness of the Corinthian:—the boldness of the voluted capital, with the beauty of the shaft, makes it eligible for porticoes, frontispieces, entrances to houses, &c. Denteles were first added to the cornice of this order.

The Corinthian possesses more delicacy and ornament than any other order; the beauty and richness of the foliaged capital, with the delicacy of the pillar, render it very properly adapted, when magnificent elegance is required: it is frequently used for internal decoration to large or state rooms; the appearance is of virginal delicacy, and gay attire; modillions are

appropriate to the cornice of this order.

The Composite order is the same as the Corinthian in its proportions, and nearly alike in its effects: the addition of the Ionic volute to the capital, gives a bolder projection. It is applicable in the same manner as the Corinthian. Denteles and modillions were applied together in the cornice.

The examples chosen to exhibit the effects, and give a general idea of the proportions of the several parts at one view, are selected from antiques; these compositions have stood the test of ages, for their symmetry and effect: the modern proportions in the descriptive account, I have taken from Sir William Chambers's useful Treatise on Civil Architecture. To the examples shown in the plates, the measurements are figured to each particular member; thus by comparing them, the variations of the moderns from the ancients may be easily known.

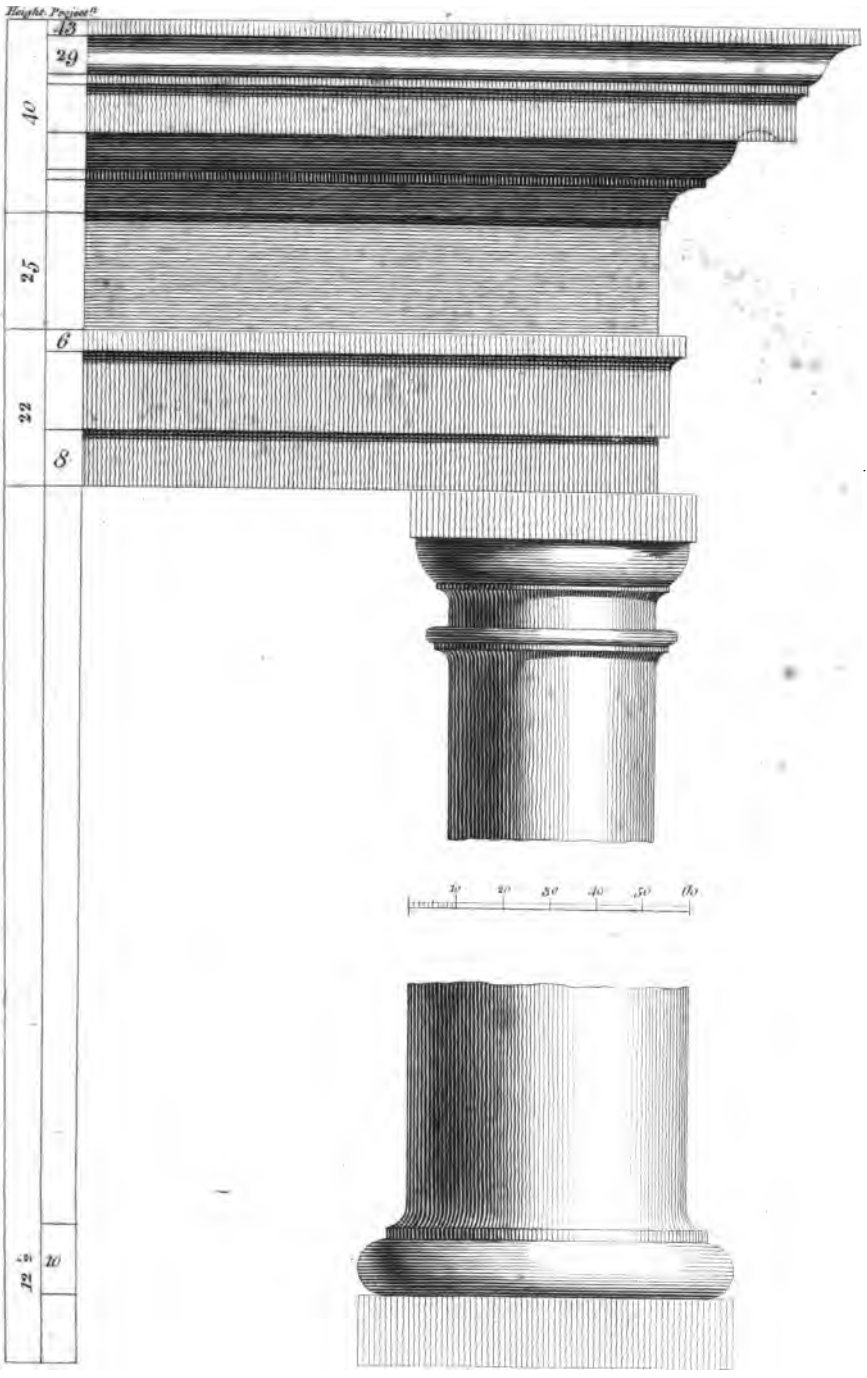
The measurements are in minutes, that is, one half of the lower diameter divided

into thirty parts or minutes, which method, having fewer calculations than any other, is preferable: the projections are measured from the perpendicular of the superior and inferior parts of the column.

OF THE FIVE ORDERS.

Of the *Tuscan* order little historic can be said; its plainness of ornament gives it the first place in most treatises: there is no regular example of this among the remains of antiquity. Piranisi has given a drawing of a Tuscan base found at Rome, but of what date is uncertain. Vitruvius, in an indistinct manner, has mentioned its general proportions, but through his whole book does not refer to one structure of this order. The Trajan and Antonine columns at Rome are reckoned of the Tuscan order, though they have eight diameters for their height; the torus and capitals are certainly more ornamented than is consistent with Tuscan plainness. The fluting to the necks also are after the most ancient Doric examples. It is somewhat singular there should be no remains of this order; and were it not for what little Vitruvius has

TUSCAN.



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written of it, it certainly might have been lost to the moderns. The plainness of its appearance, no doubt, caused it to be neglected at Rome; but in no other place has been discovered any truly ancient example.

Of the Doric we have many remains of very ancient date, which leads me to think the Tuscan is no other than the Doric more simplified, or deprived of its ornaments to suit certain purposes, where strength and cheapness were wanted; nevertheless it is applied, with propriety and effect, to the entrance of cities, large gateways, and in military architecture, where massive strength only is required.

I have selected the profile given by Palladio, who saw some remains in Italy, which might lead him to more just ideas of what the ancients practised in this order. It certainly derived its name from the people of Tuscany, in Italy, who first used it.

Sir William Chambers gives it the following proportions:

"The height of the column is fourteen modules, or seven diameters; that of the

whole entablature three modules and a half, which being divided into ten equal parts, three are for the height of the architrave; three for the frize; and the remaining four for the cornice: the capital is in height one module; the base, including the lower cincture (which is peculiar to the measurement of this order) of the shaft, is also one module; and the shaft, with its upper cincture and astragal, is twelve modules: in interior decorations, the height of the column may be fourteen modules and a half, or even fifteen modules; which increase may be in the column only." It is customary in executing this order to diminish it one quarter; I think without sufficient reason; as its character of extraordinary strength would be better preserved, by the usual diminution of one eighth, or one sixth.

Of the *Doric* order there are many examples still remaining; some of very high antiquity, and of proportions so dissimilar from the practice of later times, that one cannot help concluding, they were produced before experience had matured the rules of art. In several buildings exhibited in the

antiquities of Pæstum, Sicily, Ionia, and Athens, the height of the columns does not exceed four diameters, or at most four and a half: the low appearance of these in large buildings, must surely convince us that solidity of construction was regarded more than elegance of design. Indeed the various examples of the Doric order of these massive proportions, prove this to be the order of columns first used in buildings of stone.

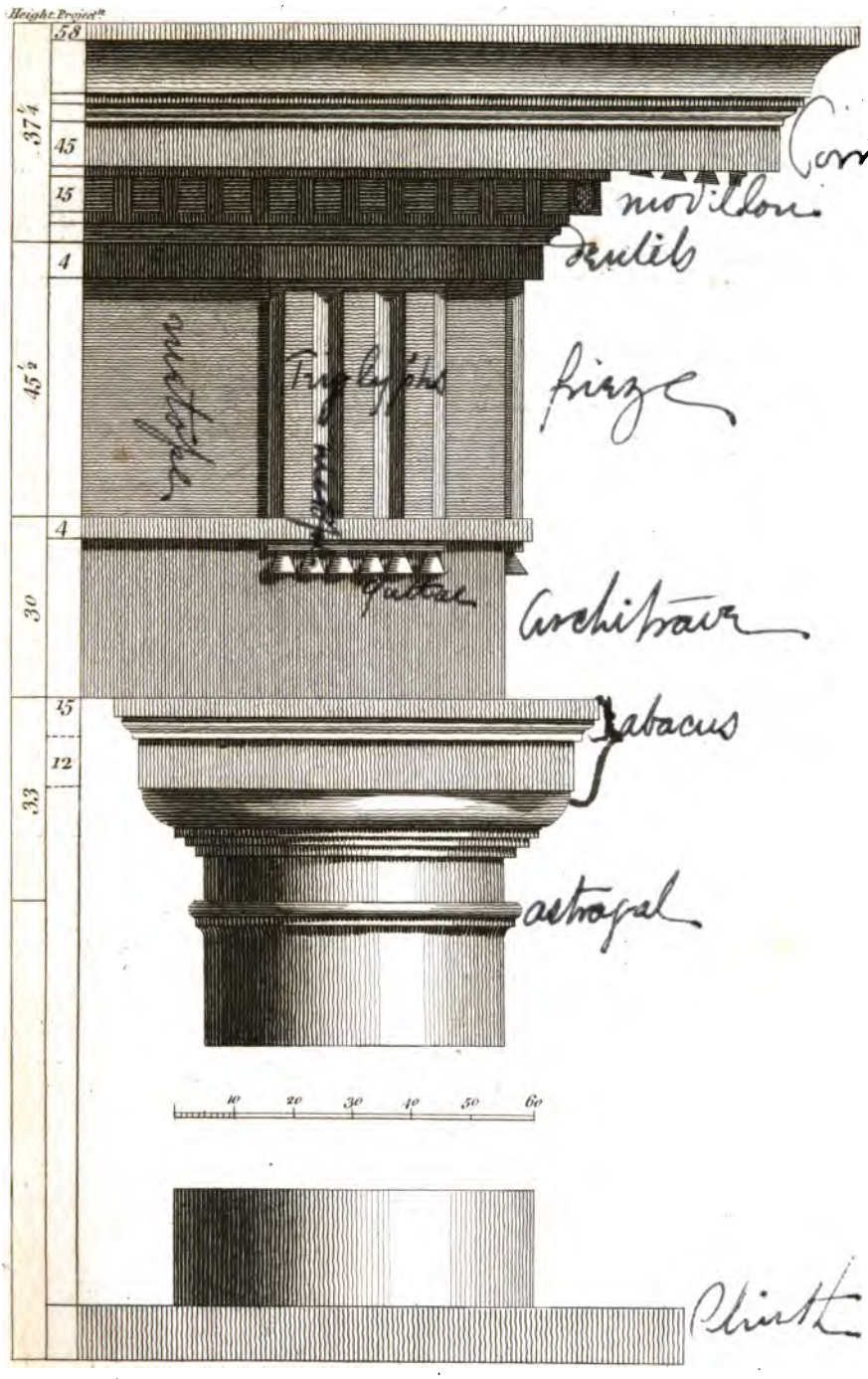
Though the Tuscan pillar is more plain in the ornaments, and, as now practised, of fewer diameters; yet, as we have neither example, nor authority, on which to suppose it ever much varied from the rules at present acknowledged, I think we may conclude it is no other than the Doric order, by being executed plainer, (as before observed,) adapted to more menial services by the inhabitants of Tuscany.

The Doric order (which is no small mark of its antiquity) has experienced many great changes in its proportions and parts, originally very low, as before remarked; afterwards it was allowed six diameters, and in succeeding times eight.

The history of the Doric order may be divided into three epocha. First when the columns did not exceed four diameters in height, as to the temple called Thoricion, ten leagues from Athens; here the columns have four diameters, and are not fluted except four and a half inches under the capital, with regular Doric fluting; the rest is smooth. Also to a temple at Corinth, where the columns are four diameters, and are fluted. To these may be added, those remaining at Pæstum, in Italy; where to one temple the columns are four diameters high, to another four and a half, and to the third rather more.

In the Island of Sicily, also, there are many examples of these proportions, of high antiquity, and of great magnitude, particularly that dedicated to Jupiter Olympius, at Agrigentum; the columns of which are eleven feet diameter at the capital, and exceed thirteen feet diameter at the base; making the circumference more than forty feet; the channels or flutings are two feet over at the base. At Selinunte, also, are the ruins of six large Doric temples, the

DORIC.



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columns under five diameters and fluted, except the largest, which appears not to have been completely finished.

The second æra may be presumed when the columns had nearly six diameters in height; as to the Propylea, or grand entrance into the citadel of Athens; to the temples of Minerva and Theseus, in the same city, all which were built in the flourishing times of Pericles, and the columns are only five and a half diameters high; also the more ancient temple of Apollo, at Delos, where the columns are smooth or plain; having twenty channels or flutings three inches long in the neck, or top of the column, and as many at the foot, two inches long; the intermediate part is plain; and it has been conjectured that on solemn occasions this part was covered with embroidered work or tapestry.

The third period of time is when six or more diameters were allowed, as to the temple of Augustus, at Athens, or, as Stuart, on good evidence, calls it, the entrance to a market, where six diameters are used. These are all without bases: in this division must be included the temple of Her-

cules, at Cora, in Italy, where the columns have eight and three quarters diameters, and have bases; which, without doubt, is comparatively a modern work.

Vitruvius allows this to be the most ancient order, and gives the following account of its origin: "Dorus, the son of Helenis, and the nymph Optyce, built a temple in the ancient city of Argos, to the goddess Juno, which happened to be of this order, but which then had no regular proportions; it derived its name from the patron of the building. This example or order was followed by all the cities of Achaia."

"Ion, the son of Xuthus, afterwards built a temple in Asia, to Apollo Panionius, of this order; and, to render it more agreeable to the eye, he gave six diameters to the column, being guided therein by the example of nature, which has given to the height of man six times the length of his foot."

Modern practice allows eight diameters, as well as a base, which was never given to the Doric order by the ancients: this is another mark of its antiquity; for certainly the base is no less proper than elegant.

Concerning the flutings whether they were at first practised or not, is impossible to determine; the remains of this order of the oldest date are fluted. I am inclined to think, when any thing like ornament was wished to be added, the fluting of columns early presented itself. It has been conjectured the flutings or channels were intended for resting-places for the spears or weapons of the warriors who went to the temples to worship. There are examples among the antiques of the column being squared off, or wrought with pans, as they are called, instead of hollows: to the temple of Hercules, at Cora, the columns have the lower third part with pans, and the upper part of the shaft with the regular Doric fluting, which is a singular instance of mixture of style in antique columns. In the same manner are the columns of the portico of Philip, in the island of Delos, which are rather more than six diameters high. The columns at Cora have eight and three quarters diameters for their height, and stand upon bases of a very ungraceful form.

The triglyph, a characteristic mark of this order, has more the appearance of art; the ends of projecting joists or cross beams will produce this effect, or near enough to be improved into what we at present see them; the places assigned them also corroborate this idea. In old Doric temples the triglyph at the angles is not placed over the centre of the column, but at the corner of the frize, and of course is over the outer edge of the column.

" Vitruvius says, that in building, they laid the joists from the interior wall to the exterior parts, and as much of the joist as appeared unhandsome was sawed off, which, not having a pleasing effect, they made tablets like the triglyphs now in use, fixed them against the sawed ends, and painted them in wax, &c. Thus the triglyphs, interjoists, and metope, in Doric work, had their origin from the disposition of the timbers in the roof; afterwards in other works, some made the rafters that were perpendicularly over the triglyphs, to project outward, and carved their projecture; hence, as the triglyphs arose from

the dispositions of the joists, so the mutules under the corona, were derived from the projecture of the rafters, wherefore, in stone or marble structures, the mutules were represented declining, in imitation of the rafters; and also on account of the droppings from the eaves, it is proper they should have such declination."

This also explains the ornament and situation of the guttæ, or drops, which were perhaps large heads of nails, intended to prevent the joist from drawing in too much by the incumbent weight.

The ornaments on the metope, or the space between the triglyphs, may have been originally trophies of the Deity, or implements of sacrifice placed there; as the bull's skull, which has been deemed appropriate to this order by the moderns.

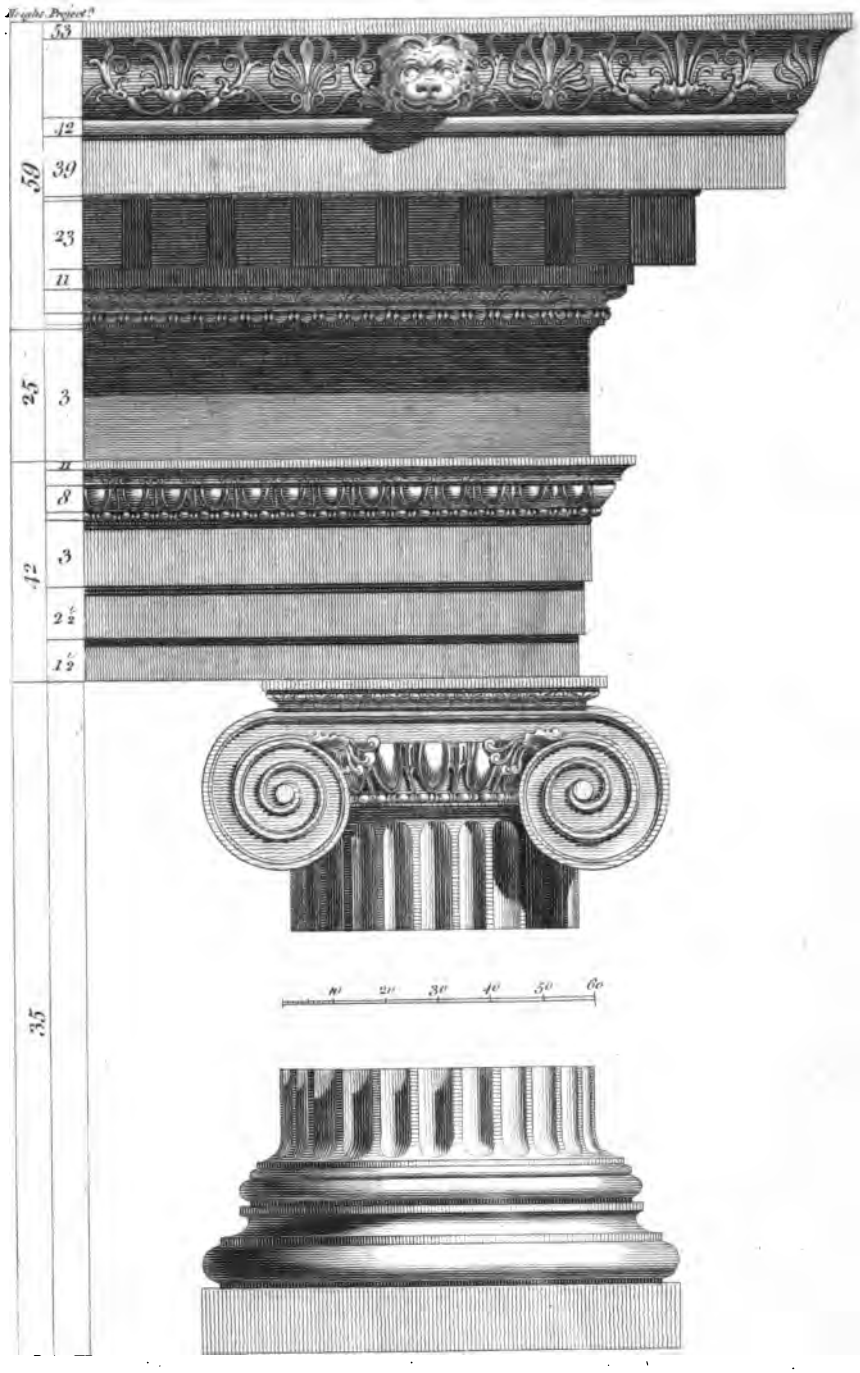
M. Winkelmann has taken some pains to prove, from a passage in Euripides, that the metopes or spaces between the triglyphs were open in the most ancient temples. How this may have been in wooden buildings, cannot now be determined: those structures which remain, have the space filled with masonry.

The profile here given is from the theatre of Marcellus, which has ever been considered as a just proportion for this masculine order: the measurements are according to M. Desgodetz. The denteles in the cornice belong not so properly to this order as to the Ionic: I have taken the liberty to alter the slope of the corona, which in the original is declining, and is thought in modern times to have a heavy effect: it was executed there on the rule before stated; or perhaps for some optical reason, as it had a considerable elevation. The column has eight diameters, which is now the general practice, is without a base, but the attic base, or its peculiar one may be used. This example is not fluted; but the base to this order (Plate VII.) shews the manner of a Doric fluted column, which differs from every other, being very shallow, and without any space or fillet between the flutings, which are generally twenty, sometimes twenty-four.

The modern proportions from the before-cited author, are as follow:

"The height of the column, including its capital and base, is sixteen modules:

IONIC.



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the height of the entablature, four modules; which being divided in eight parts, two are for the architrave, three for the frize, and three for the cornice: the base is one module in height; the capital thirty-two minutes, or a little more."

The *Ionic* order has the following account of its origin by Vitruvius.

"Ion (the same as before mentioned) building a temple to Diana, and seeking some new manner to render it more elegant, had recourse, as before in the Doric order, to the human figure; and gave to this new order a feminine delicacy: thus he was the first who gave eight diameters to a column, that the aspect might be more pleasing; and that its appearance might be more lofty, he added a base, in imitation of a shoe; the volutes, like locks or plaits of hair, hanging on each side, he gave to the capital, ornamented with fruits, or flowers in festoons, and furrows, or flutings down the column were wrought, resembling the folds or plaits of a matron's garment."—"Thus he invented two kinds of columns, in the Doric imitating a manly robust appearance, without ornament; in the Ionic, regarding

a female delicacy, accompanied with ornaments pleasing and elegant."—"Succeeding architects, much approving the taste and ingenuity of this design, allowed eight diameters and a half to this order."

This account of Vitruvius points out in what manner another column or order of Architecture was introduced, an invention which has justly been celebrated and followed, on account of the beauty and elegance of its parts. Many temples, and other structures have been built of this order in various parts of Greece and Italy. It may be observed, and is indeed rather singular, that on the Etruscan vases, whose age we do not know, and on pieces of ancient sculpture wherever columns are represented, they most generally are marked with the character of the Ionic volute, although accompanied with the Doric fluting.

Vitruvius records an anecdote much in praise of the Ionic order, in the following words: "The difficulty attending the proper adjustment of the mutules, metopes, and triglyphs in Doric structures, was such, as frequently to be a cause of much incon-

venience and trouble to architects in large buildings, and also rendered their aspect confused and embarrassing; on which account, and the massy appearance of the Doric column, it was thought improper for sacred buildings; of this opinion were Tarchenius and Pytheus, with many ancient architects; also the celebrated Hermogenes, who, when he was building the temple of Bacchus at Teos, rejected the Doric, though all the marbles were ready cut, and in its stead erected a temple of the Ionic order."

From the remains of this very celebrated building, the example of this order here shewn is taken: the grandeur of its appearance will, I flatter myself, justify the choice: it is here given as restored in that elegant work the "Ionian Antiquities."

Denteles properly belong to the Ionic cornice, they represent the assers, or smaller rafters, which supported the tiles.

The volute of the capital is now generally executed on an angular plan, the same as in the Composite order; so that, viewed every way, it has the same appearance: this differs from the general mode of the

antique, which is to have the volutes parallel; and to Michael Angelo this has been attributed as a new invention; but examples are found in the capitals of the angle columns, in the temple of Erictheus at Athens; and in the temple of Fortuna Virilis at Rome.

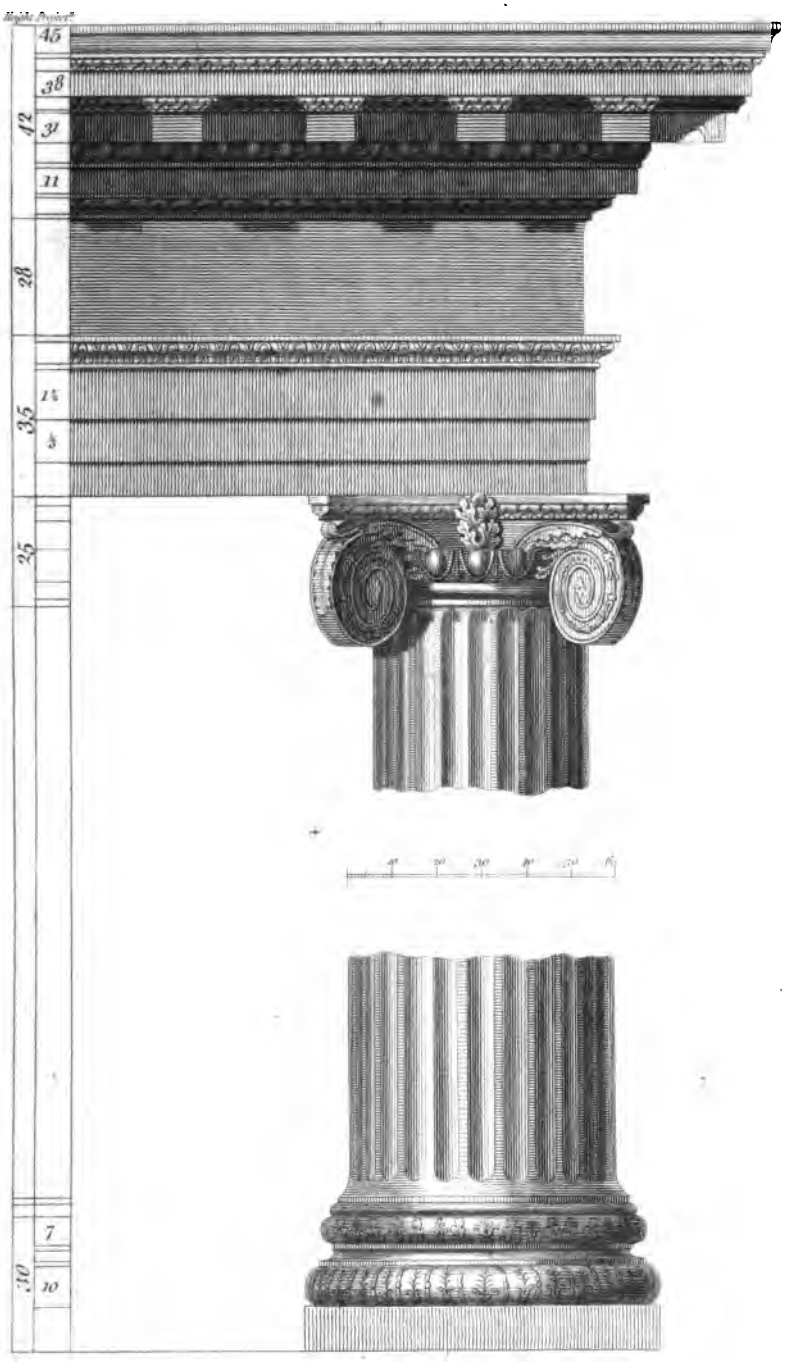
Piranisi has endeavoured to prove the first idea of the Ionic volute to have been derived from shells; be this as it may, many pleasing forms of convolution may be obtained from the section of shells.

The modern Ionic represented on the plate is according to Scamozzi, which is of good symmetry and form, erring only in being too much enriched.

The standard of the modern proportions is as follows:

"The height of the column is eighteen modules; and that of the entablature four modules and a half, or one quarter the height of the column, as in the other orders, which is a trifle less than in the regular antique Ionics: the capital is twenty-one minutes; and the base thirty minutes in height: the shaft of the column may be plain,

MODERN IONIC.



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CORINTHIAN.

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or fluted, with twenty, or twenty-four flutings, whose plan may be a trifle more than a semicircle, because they then appear more distinct; and the fillet or interval between them must not be broader than one third of the breadth of the fluting nor narrower than one quarter thereof; the ornaments of the capital are to correspond with the flutings of the shaft; and there must be an ove above the middle of each fluting. The entablature being divided into ten equal parts, three are for the architrave; three for the frize; and four for the cornice. In interior decorations, where much delicacy is required, the height of the entablature may be reduced to one fifth of the height of the column."

The *Corinthian* order, in the opinion of Vitruvius, " differs from the Ionic only in its capital; the Ionic capital having no more than one third of the diameter of the column for its height; but the Corinthian capital is allowed one entire diameter, which gives to the column a noble, but delicate grandeur. The other members, placed on the Corinthian pillar, are common to the Doric and Ionic orders; for it

has no particular species of ornament peculiar to its cornice: sometimes it has the Doric mutules and triglyphs in the architrave; sometimes an Ionic frize, with denteles in the cornice; in a manner, it is no more than a third order, risen out of the former two, which has nothing peculiar to itself, but the capital." The origin of which he thus records:

"A marriageable young lady of Corinth fell ill, and died; after the interment, her nurse collected together sundry ornaments with which she used to be pleased; and putting them into a basket, placed it near her tomb; and, lest they should be injured by the weather, she covered the basket with a tile. It happened the basket was placed on a root of acanthus, which in spring shot forth its leaves; these, running up the side of the basket, naturally formed a kind of volute, in the turn given by the title to the leaves:—"Happily Callimachus, a most ingenious sculptor, passing that way, was struck with the beauty, elegance, and novelty of the basket surrounded by the acanthus leaves; and, according to this idea or example, he afterwards made co-

lumns for the Corinthians, ordaining the proportions such, as constitute the Corinthian order."

Vitruvius, in the foregoing account, forgot the peculiarities of the Corinthian cornice, or, the entablature to that order was not then practised in the manner we find remaining among ancient buildings; for to this cornice, the modillion is ever an attendant. But exactly according to this description of Vitruvius, is the cornice of the portico at Athens, called Poikilie, as represented by Stuart. Vol. 1. Antiquities of Athens.

The superior beauty and elegance of this order have rendered it famous, and the many examples, existing among the fragments of antiquity, sufficiently evince the great esteem with which it was regarded.

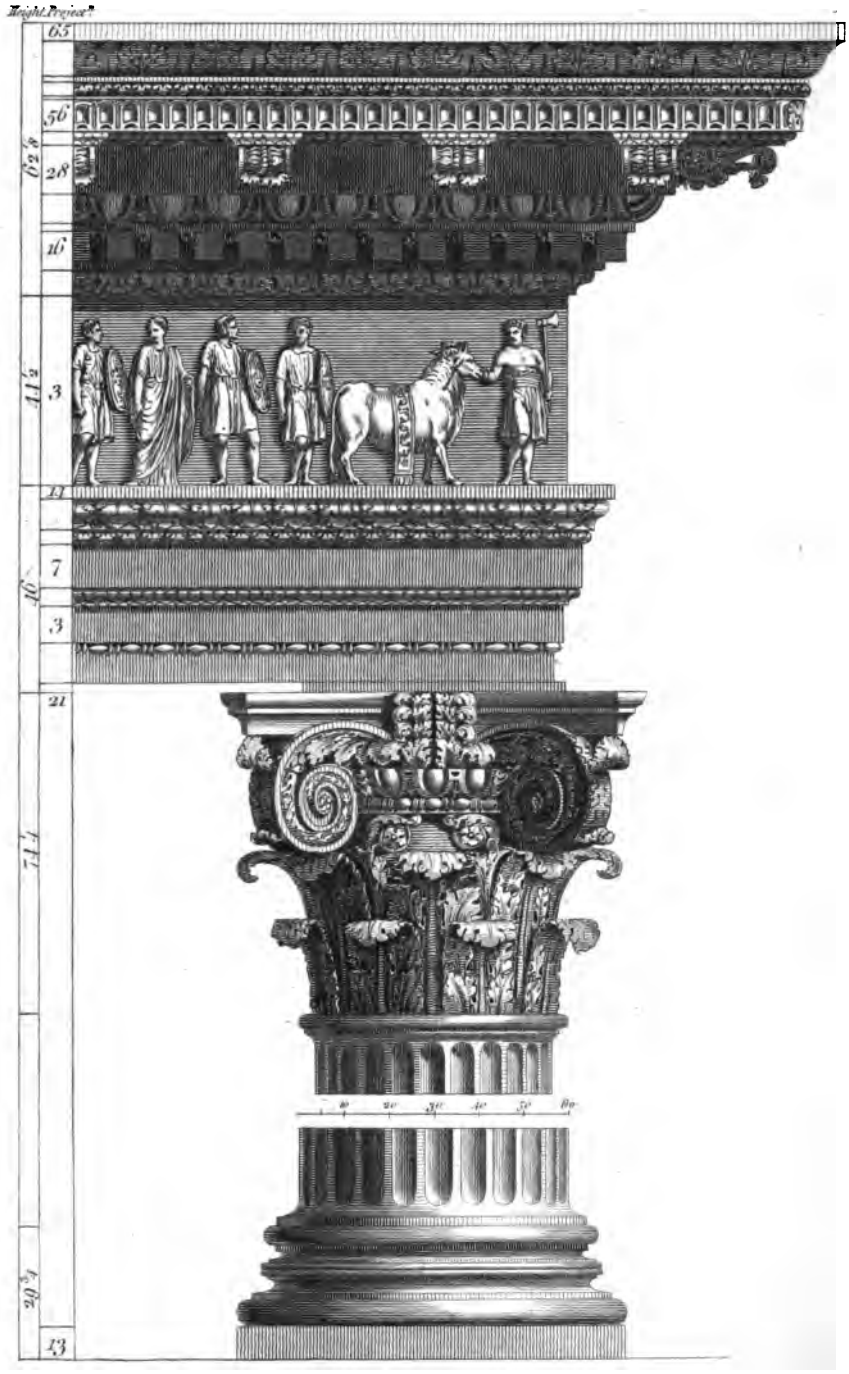
The ravages of cruel and desolating war have not left us one remain of this order, of the many celebrated examples which the city of Corinth possessed, where arts of every kind, and particularly Architecture, eminently flourished and were carried to perfection. In latter times, the conduct of Lucius Mummius, in the destruction of

that polished people and city, would have justly been considered as the grossest barbarism: the temples, the sacred buildings were destroyed, and levelled with the ground; so that at one stroke the works of ages were desolated, the labours and ingenuity of thousands destroyed, and posterity deprived of every trace of this order, in the place of its nativity and nurture.—Although Rome would not suffer Corinth as a rival city, there is no doubt she deigned to follow the rules and laws of art established by her vanquished enemy, especially in Architecture. The elegance and purity of style in many of her buildings clearly evince Grecian ingenuity and art.

The profile here given is according to Palladio's measurements of the Corinthian pillars to the portico of the Rotunda, commonly called the Pantheon at Rome: the universal celebrity of this structure pointed it out as a proper example.

The moderns have adapted the following proportions: " The column is twenty modules in height; the entablature five modules; the base one module, and may

COMPOSITE.



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be either Attic or Corinthian: the capital has seventy minutes in height; the proportion of the members of the entablature is the same as in the Tuscan and Ionic orders. If the entablature is enriched, the shaft of the column may be fluted, and the flutings may be filled to one third part of their height with cabling, which will strengthen the lower part of the column, and make it less liable to injury. In very rich interior decorations, the cabling may be composed of reeds, ribbands, husks, flowers, &c. The capital is enriched with olive leaves, as almost all the antiques at Rome of this order are; the acanthus is seldom employed but in the Composite order: the entablature to this order may be reduced to two ninths, or one fifth of the height of the column; in which case it is best to use the Ionic entablature, or reduce the denteles of the cornice."

The *Composite* or Roman order certainly owes its origin to that constant solicitude after novelty, which ever renders the mind of man restless in an enlightened and highly cultivated age. The desire of variety and novelty, either of new inven-

tion, or combination, certainly engaged the Roman architects to unite with the proportions and enrichments of the Corinthian order, the angular volute and denteles of the Ionic, and by this union to compose a new order.

The introduction of the angular Ionic volute, and the omission of the upper row of leaves in the capital, certainly give it a more bold and noble aspect, than that of the Corinthian capital, yet different from any of the other orders, possessing an elegance and projection very pleasing, and may be used with very agreeable and happy effects.—There are many examples remaining at Rome, which show the general estimation of this order there, in the height of its splendour and prosperity. In their triumphal arches, it was used with good effect, where it produced an agreeable boldness, uniting elegance and ornament.

The example here given is, that executed in the triumphal arch, erected to the honour of Vespasian and Titus at Rome; the justness of the proportions, with the elegance of the ornaments, mark it as a proper standard for the Composite order.

The proportions of the moderns are as follow: "The height of the column is twenty modules; and that of the entablature five modules; the capital has seventy minutes in height; the base measures the same as in the Doric and Ionic orders; and as the module is less, all its parts will of course be more delicate; the shaft may be enriched with flutings, to the number of twenty or twenty-four, as in the Ionic order; there is no reason why they should be augmented. The principal members of the entablature may have the same proportions as the two former orders, viz. being divided into ten equal parts, three are for the height of the architrave, three for the frize, and four for the cornice."

I shall add here, more to complete the history than to recommend their use, that there are ancient examples of oval columns; where the circle of the column is elongated by a broad plain space on the two opposite sides of the shaft. Of this kind were some fragments found in the Island of Delos, by M. Le Roy. There are two others at La Trinita de Monte, at Rome. Also in the tomb near Mylassa in Greece according

to M. De Choiseul; also, Ionian Antiquities, vol. 2; this elegant structure is very perfect; is of a square form, on a basement; the pillars are insulated, and support a vaulted ceiling highly enriched; each front has two oval fluted columns with the narrow face outwards; at the angles are pilasters having the same enrichments as the columns; the capitals are composite, and the volutes are omitted. This elegant little morceaux is of white marble, and about nineteen feet square. At Megara, near the same place, is another example of the same kind.

Having thus given the particulars relative to each order, I shall conclude this part with some general observations, necessary to be known and observed, in delineating or making designs in Architecture; these I have extracted from the work before quoted, and have given them in the author's own words, as alteration is needless, and liable to mislead.

An order may be divided into two parts, the column including the plinth of its base, with the abacus of the capital; and the entablature, which includes all above the capital, and may be divided in the lar ge,

into the architrave, the frize, and the cornice.

"By examining the antiques, it will be found, that, in all their profiles, the cyma and the cavetto are constantly used as finishings, and never applied where strength is required; that the ovolo and talon are always employed as supporters to the essential members of the composition, such as the modillions, denteles, and corona; that the chief use of the torus and astragal, is to fortify the tops and bottoms of columns, and sometimes pedestals, where they are frequently cut in the form of ropes; and that the scotia is employed only to separate the members of bases, for which purpose the fillet is also used, not only in bases, but in all kinds of profiles."

"An asemblage of essential parts and mouldings, is termed a profile; on the choice, disposition, and proportion of these, depends the beauty or deformity of the profile. The most perfect are, such as are composed of few mouldings, varied both in form and size, fitly applied with regard to their uses, and so disposed, that the straight and curved ones succeed each other

alternately. In every profile there should be a predominant member, to which all the others ought to be subservient, and seem either made to support, to fortify, or to shelter it from the injury of the weather, as in a cornice where the corona is principal, the cyma or cavetto cover it, and the modillions, denteles, ovolo, and talon support it."

"When ornaments are employed to adorn the mouldings, some of them should be left plain, in order to form a proper repose; for, when all are enriched, the figure of the profile is lost. In a cornice the corona should not be ornamented, nor the modillion band; neither should the different facias of architraves, the plinths of columns, fillets, nor scarce any square member be carved; for they are, generally speaking, either principal in the composition, or used as boundaries to other parts; in either of which cases, their figures should be distinct and unembarrassed. The dentele band should remain uncut, where the ovolo and talon immediately above and below it are enriched; for, when the denteles are marked, particularly if they

be small, the three members are confounded together; and, being covered with ornament, are much too rich for the rest of the composition; a fault carefully to be avoided, as the just and equal distribution of enrichments is on all occasions to be attended to.—For, in effect, the ornaments of sculpture in Architecture are like diamonds in a lady's dress, with which it would be absurd to cover her face, and other parts that are in themselves beautiful."

"When mouldings of the same form and size are employed in one profile, they should be enriched with the same kind of ornaments.—It must be observed, that all the ornaments of mouldings are to be regularly disposed, and answering perpendicularly above each other: the middles of the modillions, denteles, oves, and other ornaments, all in a line; for nothing is more confused and unseemly, than to distribute them without any kind of order. The larger parts are to regulate the smaller; all the ornaments in the entablature are to be governed by the modillions or mutules; and these are to be dependent upon the intervals of the columns, and so disposed, that

one of them may correspond with the axis of each column. It is farther to be observed, that the ornaments must partake of the character of the order which they enrich; and those used in the Doric and Ionic orders must be of a simpler kind, and grosser make, than those employed in the Composite and Corinthian."

"In the exterior, whatever does not contribute to the general effect of the whole building, is in a great measure useless, and an expense that might more judiciously be employed in places where it could be more attended to.—The parts that are in themselves large, and so formed and disposed as to receive broad masses and strong impressions of light and shade, will of course excite great ideas; but if they are broken into a number of small divisions, and their surface so varied as to catch a thousand impressions of light, demi-tint, and darkness, the whole will be confused, trifling, and incapable of causing any great emotions."

Thus far Sir W. Chambers. An observation or two more, and I finish the subject.

First. The appearance of columns is often varied by adding rusticated cinctures at equal or other distances to a column: this is a modern invention, gives a very unnatural appearance, and disguises the noble figure of the column. Rustic work is, with greater propriety and better effect, introduced into large entrances, parks, and gardens; also into grottos, baths, or fountains, where an irregular and rough appearance better suits the place and purpose. Le Clerc observes these kind of rustic ornaments are never to be imitated, excepting in the gates of citadels or prisons, in order to render these entrances more frightful and disagreeable.

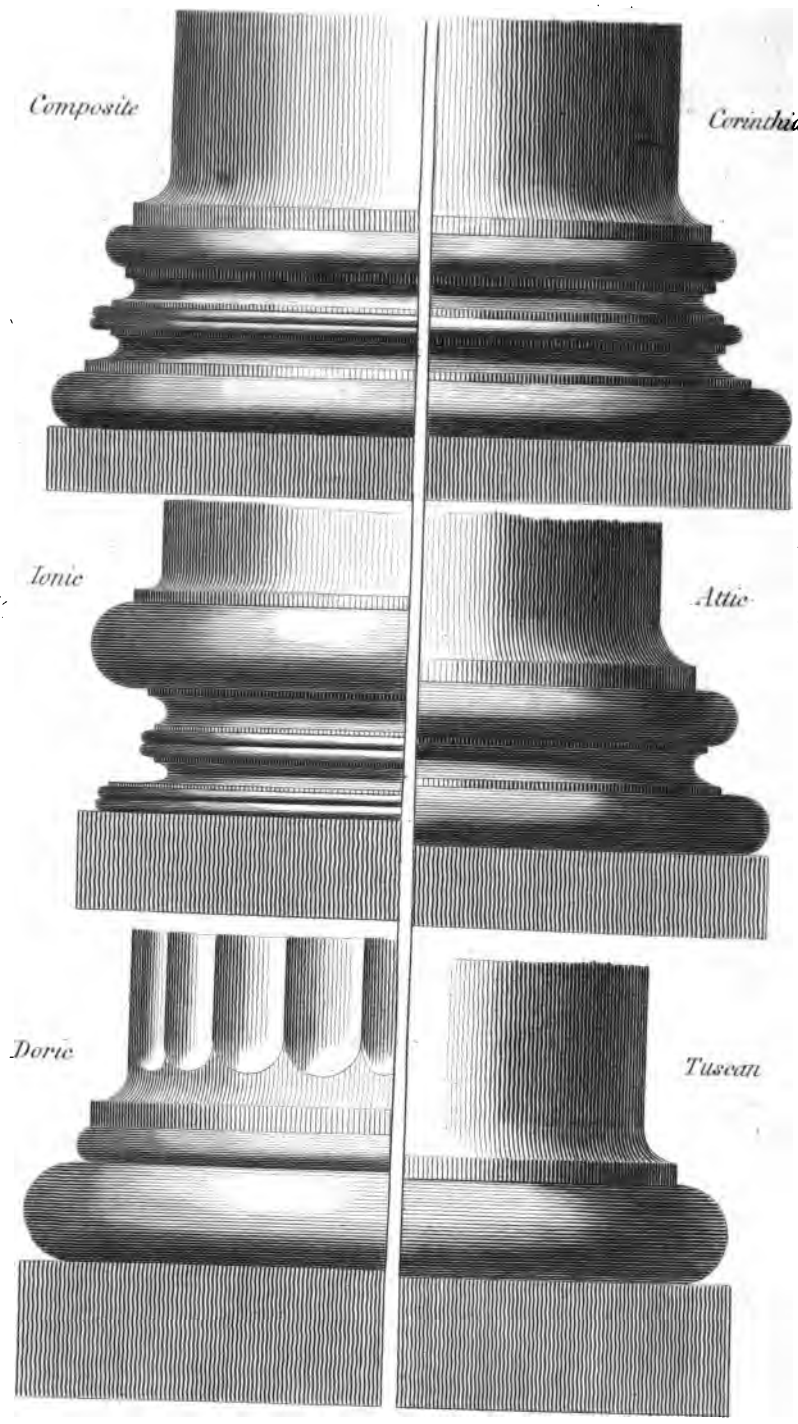
The flutings of columns are sometimes wrought round or spirally on the column; there is an ancient example of this, in a small temple below Trevi in Italy, the plan and elevation of which are given us by Palladio; where, of four columns in front, two have the flutings spirally, and the two centre ones are wrought with leaves on the shaft.

The rule for the diminution of columns has ever varied; the ancients frequently

diminished the column from the very foot, or from one quarter or one third of its height; the latter method is now generally practised; the diminution should be seldom less than one eighth part of the lower diameter of the shaft, nor more than one sixth: this latter is the more graceful: some, by way of giving a better contour or appearance, allow a small swell or bellying, in the lower part of the middle division of the pillar.

It may not be altogether useless to give the general rules to be observed in *pedestals*, where it is necessary to introduce them. A determinate rule cannot be given, as they must vary in height according to the circumstances which render them useful: they have ever been considered as mere auxiliaries, to give height, and elevate the column above surrounding objects which impede its view. When they are used by choice, it is common to give them one third, or one quarter part of the height of the column and entablature, which is thus divided: of nine equal parts, two are for the base, one for the cornice, the remaining six, for the die of the pedestal, which is

BASES.



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equal in size to the plinth of the column; the enrichments should be regulated by those of the entablature, &c. When columns are in couples, if pedestals are used, they should have but one; also in a colonnade or peristyle there should be but one pedestal continued, having breaks or projections in the cornice, &c. so that each column may seem to have its particular pedestal.

Each column has its particular *base*. The Tuscan base is the most simple, having only a torus and plinth. The Doric base has an astragal more than the Tuscan. To the Ionic base the torus is larger on a double scotia, with two astragals between. The Corinthian base has two toruses, two scotias, and two astragals. The Composite base has one astragal less than the Corinthian. The Attic base consists of two toruses and a scotia, and is applicable to every order except the Tuscan, which has its particular base. Plate 7.

RUDIMENTS

OF

ANCIENT ARCHITECTURE.

PART THE SECOND.

OF THE TEMPLES OR SACRED BUILDINGS OF THE ANCIENTS.

I HOPE to be pardoned in requesting the reader's attention to an observation or two, before we enter on the rules of Vitruvius concerning sacred buildings.

Of all the buildings of the ancients, those sacred to their deities remain most perfect, and in the greatest number. Indeed, considering the polytheism of their religion, (the Greeks are reported to have had thirty thousand Gods; nor were the Roman deities less numerous,) and how much men and nations vied in endeavouring to show the greatest liberality in

erecting buildings to the honour of their tutelar deities, or when they had vowed worship and homage to any particular one; I say, when we consider what variety of opportunities offered to show honour, to exhibit splendour, and to display liberality, we need not wonder at the great number of sacred edifices still remaining: indeed they are so many, and of such magnificence, as chiefly to absord the traveller's attention, the remains of other public structures being but few. I have therefore given no more on public edifices, than what Vitruvius has written of sacred ones, and the rules given by him for the disposition of columns.

OF TEMPLES.

THE following account of their origin and progress will, I think, be considered as rational; for doubtless they had their states of progression, as well as every other human invention.

There is implanted in the mind of man so strong an idea of a superior power,

that every nation has some worship or ceremonies, by which they shew their dependance on, and reverence of a Deity, whose purity of nature requires distinct places for religious services, attended by every mark of awe and respect, best suited to express their ideas of reverence and submission to Omnipotent Power.

Mankind in the rudest state ever acknowledged powers divine. The earliest writers, sacred and profane, describe them performing their religious services on the top of mountains, or elevated places; thereby making the nearest possible approach to heaven, and believing their prayers would be more readily heard. In the sacred writings, there are various instances of elevated situations being preferred; and the same appears evidently to have prevailed among the heathens; for at Rome, Athens, &c. the most sacred temples are on the most elevated situations.

In Homer, among other instances, the piety of Hector is commended by Jupiter, for the many sacrifices made by him, on

the top of Mount Ida. In the fable of Mount Parnassus, with others, the eminence is considered as the hallowed residence of the poetic genii, or gods. At what period, or by what nation of the heathens, temples were first erected, does not appear. The Persians did not judge the gods to be of human shape, (as did the Greeks,) therefore had no temples, thinking it absurd to confine the gods within walls, whose house and temple the whole world was.

Mount Ida was remarkable for the quantity and largeness of its timber, and I believe it is universally felt and allowed that the places best calculated to inspire religious ideas are groves, or thick woody places, where gloomy dulness and shade naturally impress the mind with awe, and lead it to contemplation. This is farther confirmed by the sacred groves, which were always adjoining the oldest and most eminent temples. Pliny also assures us, that trees in old times served for the temples of the gods. Tacitus reports the same to have been the custom of the old Ger-

mans. Q. Curtius says the same of the Indians. The Druids, who has not heard of their sacred oaks and consecrated groves? The Romans, too, practised the same mode of worship, and had *Luci*, or groves, dedicated to some particular deity in most parts of the city of Rome.

Such, we may therefore suppose, were the places first set apart for religious worship; but when the weather, or inclination, rendered an enclosed place desirable, they laboured, in this early state of arts, to produce a building, merely suited to the necessary purposes. But when society was more enlarged and refined, and the profits of commerce and dominion accumulated to wealth, then the mind of man, which naturally runs towards excellence, was not content with the plain and simple structures already built. A modern writer has well observed, that, "Those who have already all they can enjoy, must enlarge their desires. He that has built for use, till use is supplied, must begin to build for vanity, and extend his plan to the utmost power of human performance; that he

may not soon be reduced to form another wish:" and, it is likely no small inducement was also used by the influence of those concerned in the worship and sacrifices of the times; for additional wealth naturally excited an increase of splendour and more costly ceremonies; these required more room, and a corresponding increase of state and magnificence, that the several rites, &c. might be suitably performed: thus, an edifice of more elegance, a building of greater extent and richer embellishments was required which would show superior honour and respect to the deity worshipped.

Thus, from the simplest structure rose the Antis, Prostyle, &c. till invention and ingenuity, aided by unbounded liberality, crowned the whole with the Hypæthral edifice. Excited by ambition, and enabled by vast riches, whose sources were far extended territory and numerous fertile provinces, emperors, and even private persons, were enabled to erect the most costly temples, the extent and magnificence of which are truly astonishing.

It is a remark worthy notice, that the ancient architects did not follow in a servile manner the rules delivered by Vitruvius: yet certainly what he wrote, were the rules by which they planned their great outline, or design: however they might vary the smaller or inferior parts of an edifice. To enumerate a few instances of variation.

The temple of Minerva at Athens has eight columns in front; and Vitruvius allows but six to a peripteral, of which order this building is.

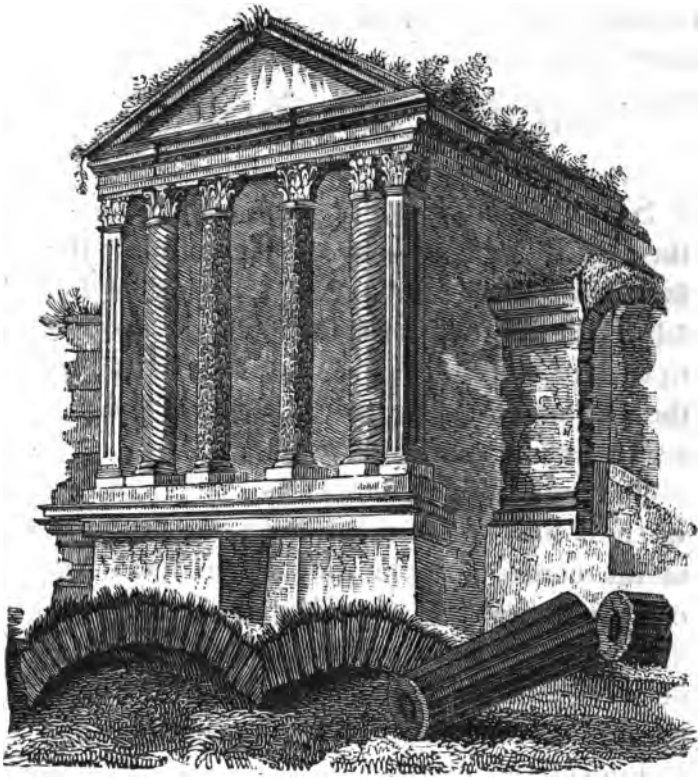
The temple of Minerva Polias has six columns in front, yet is prostyle; although Vitruvius allows but four to this order.

The temple of Jupiter Olympius, at Athens, has no more than eight columns in front, yet is hypæthral, to which Vitruvius gives ten columns in front. This is a variation recorded by himself, and without any particular notice of the violation of the rule; from which it should appear as not considered of much consequence. Also the temples at Selinunte, in Sicily, esteemed very ancient Dorics, have one column more in the flank than the Greeks usually gave; thus several

hexastyles, or six columns in front, have fourteen columns in the flank, and one has sixteen. This difference also is to be observed between the temples built by the Greeks, and those by the Romans. The rule of the former was to give to the flanks one column more than double the number of those in front, thus an octastyle would have seventeen columns in the flanks, as to the temple of Minerva at Athens. The Romans, on the contrary, gave only double the number of intercolumniations; thus to an hexastyle, they would make only eleven columns in the flanks, that is, ten intercolumniations, making two columns less in the flanks, than the Greeks made; as is to the temple of Fortuna Virilis at Rome, and to the temple at Nismes, in France.

The walls of the cell were always placed opposite the columns of the pronaos, and posticum, according to the rule; at least I recollect but one example to the contrary, which is in the temple of Theseus, at Athens.—I thought it necessary to notice these instances of the variation of the ancient architects, that the researches and

genius of modern times might not be led into error, or fettered by observing as law, that which was not adhered to by those we wish to imitate.



VITRUVIUS

ON

SACRED BUILDINGS.

"SACRED buildings, or temples, differ in their various figures and aspects. Of the first order is the Antis; 2dly, the Prostyle; 3dly, the Amphiprostyle; 4thly, the Peripteral; 5thly, the Pseudodipteral; 6thly, the Dipteral; 7thly, the Hypæthral; which are distinguished in this manner:

The edifice or temple is called Antiæ when it has in the front Antæ, or pilasters, at the corners of the wall which forms the cell; and between the pilasters, in the middle two columns, which support the pediment or porch; of which examples are at the three temples of Fortune, the one nearest the Colline Gate.

2ndly, The Prostyle is the same as the

Antis, only columns are added opposite the pilasters or antæ of each corner, which support a chapiter or architrave, the same as in the Antis: an example of this manner is the temples of Jupiter and Faunus in the Isle of Tyber.

3dly, The Amphiprostyle is the same as the preceding, only a postern or back front (Posticum) is added, with columns and pediment the same as to the Prostyle.

4thly, The Peripteral has in the front and hinder porch (Posticum) six columns, and eleven, counting the corner ones, on each side. And these columns are so placed, that the space of an intercolumniation shall be left between the wall and the outer range of columns, leaving an ambulatory round the cell of the edifice: as in the Gate of Metellus, the temple of Jupiter Stator designed by Hermodius; and that founded by Mariana to Honour and Virtue, built by Mutius, which has no hinder porch.

5thly, To the Pseudodipteral, the columns are so placed, that in the front and behind there are eight columns, and on each side, counting the corner ones, fifteen; and the walls of the cell must cor-

respond, or run parallel with the four centre columns, both before and behind: there must be the space of two intercolumniations, and the thickness of one column between the walls of the outer columns. Of this order Rome affords no example; but at Magnesia, the temple of Diana, by Hermogenes Alabandin; and that of Apollo, built by Amnesta, are examples.

6thly, The Dipteral is octostyle or eight-columned, both before and behind; but it has a double row of columns round the cell, as in the temple of Jupiter Quirinus of the Doric order, and the Ionic temple of Diana, at Ephesus, built by Ctesiphon.

7thly, The Hypæthral is decastyle or ten-columned, both before and behind: the other parts are the same as the Dipteral, but within it has a double row of columns, one over the other all round, resembling a porch, which is called a Peristyle: the middle has no roof; it has folding-doors both before and behind. We have no example of this at Rome; but Athens has one, the temple of Jupiter Olympius, which is octostyle or eight-columned.

There are also round temples, of which some are Monopteral, without cells, and built on columns: the other is called Peripteral. Those without cells have a tribunal or throne, and are ascended by steps of one third of the diameter of the temple: the columns, placed on pedestals, are as high as the diameter of the temple, taken at the outer side of the pedestals; their thickness is one tenth part of the height of the shaft and capital: the height of the architrave is half the diameter of the column: the frize, and other ornaments above, may be according to the general rule.

The Peripteral is built with an ascent of two steps, on which the pedestals of the columns are placed: the wall of the cell is distant one fifth part of the diameter of the temple from the pedestals of the columns: in the middle is left a space for folding doors: the diameter of the inner part of the cell must be equal to the height of a column without the pedestal; the columns round the cell are placed with suitable proportion and symmetry. The enclosure in the middle is thus proportioned;

one diameter of the whole building for its height; half is for the cupola, exclusive of a flower on the top of the pyramid: the size of the flower shall be the same as a capital of the columns; the other parts may be according to the proportions already written.

By the same general proportions other kind of temples are built, but have different dispositions of their parts; as the temple of Castor, in the Circus of Flaminius: and the temple of Vejovius, between the two groves; also the temple of Diana of the Groves; where the columns are added on both sides the walls of the porch. This kind of building, as in the temple of Castor, in the Circus, was first used in the temple of Minerva within the Citadel at Athens, and in the temple of Minerva at Sunium, in Attica. They have the same proportions as the others; for the cell is in length double its breadth; and the same rule is followed for the sides as for the fronts.

Some there are who use the Tuscan disposition of the columns, although they are of the Corinthian or Ionic orders.

To temples, whose walls with the Antæ project to form a porch, two columns are placed opposite the walls which form the cell; thus blending the Tuscan and Greek manners.

Again, others by removing the walls of the cell, and placing them between the intercolumniation, leave a very large space within the cell; the other parts preserve the same proportion and symmetry. Thus has arisen a new order, which is called Pseudodipteral; and this kind is particularly useful for sacrifices. The same kind of temple cannot be made to every god because of the diversity of the ceremonies to be performed.

Thus I have explained, as far as I was able, every kind of sacred building—their order—the symmetry of their parts—the difference of their figure; and what variety is to be observed in them, I have been careful in writing."

The elegance and magnificence of a structure, depending very much on the proper placing of the columns; and as it appears connected with the subject here treated of, I add the rules laid down by

Vitruvius, observed by the ancients, and allowed by the moderns, in the disposition of columns, called, by that writer,

THE FIVE SPECIES OF BUILDING.

" Of buildings there are five sorts or species; which are called, 1st, The Pycnostyle, that is, of thick columns. 2nd, The Systyle, that are a little wider. 3d, The Dyastyle, still wider. 4th, The Aræostyle, more distant than is proper. 5th, The Eustyle, which is the proper distance.

To the Pycnostyle, the distance of the intercolumniation is one diameter and a half of the column; as in the temple of the divine Julius; the temple of Venus in Cæsar's Forum; and many others after the same manner.

The Systyle has two diameters of the column between the intercolumniation, and the plinths of the base are equal to the space which is between two plinths; as in

the temple of Fortuna Equestris near the Stone Theatre, and others made after the same proportions. Both these sorts are inconvenient; for the ladies, when entering the temple to worship, cannot pass the columns arm in arm unless they go sideways: also by the frequency of the columns, the view of the door, and the signs or trophies of the deity, are hid, and the narrowness of the porch is inconvenient for walking.

The Diastyle has this distribution, viz. three diameters of the columns between the intercolumniations, as in the temple of Apollo and Diana. This has its inconveniences; because the architrave, on account of the distance between the columns, is liable to break.

In the Aræostyle they use neither stone nor marble, but make the beams of durable timber. This kind of building is straggling and heavy, low and broad. The pinnacles are generally ornamented with fictile or earthen ware, or brass gilt after the Tuscan manner, as is to be seen in the Circus Maximus at the temple of Ceres, and in

Pompey's temple of Hercules, and also in the Capitol.

The Eustyle manner is now to be treated of; which, with great justice, for its usefulness, beauty, and durability, merits every commendation. It is formed by allowing to the distance of the intercolumniations two diameters and a quarter, and to the middle intercolumniation only, both before and behind, three diameters. Thus the figure has a beautiful aspect, is accessible without impediment; and round the cell is a stately ambulatory.

The rule is this:

The front of the building, if it is Tetrastyle, (four columns,) is divided into eleven parts and a half, without reckoning the projection of the base of the column. If it is Hexastyle, (six columns,) it is divided into eighteen parts. If it is Octastyle, (eight columns,) it is divided into twenty-four parts and a half. Of these parts, one, whether the building be tetrastyle, hexastyle, or octastyle, shall be a module, which is to be the thickness of a column. Each intercolumniation, except the middle one, must be two modules and a quarter; the middle one shall have three modules both be-

fore and behind: the height of the columns shall be eight modules and a half: by this division of the intercolumniation, the columns have a just proportion. Rome affords no example of this kind; but at Teos in Asia is one, the temple of Bacchus, which is octastyle.

Hermogenes was the first inventor of these proportions; he also first used the octastyle pseudodipteral; he first contrived to take away, without injuring the beauty, the interior range of columns in the dipteral, (which are thirty-four,) thereby very much decreasing both the labour and expence: this also gave a very large ambulatory round the cell, and, without missing the superfluity, preserved the majesty of the whole; for the walls and the columns were first thus disposed, that the view, on account of the asperity *(asperitas)* of the intercolumniation, should have more majesty: besides, it has this convenience, of sheltering a great many persons from rain, as well round as within the cell, which includes a great space. This disposition of pseudodipteral buildings was first discovered by the labour of the great and discerning spirit of Hermogenes; which, like a fountain, will serve posterity from

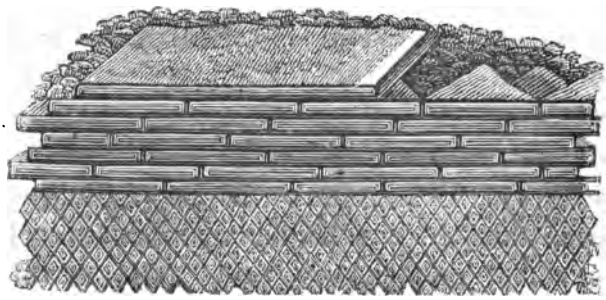
whence to draw rules for the Science of Architecture.

The columns to the Araeostyle should have for their thickness one eighth part of their height. For the Diastyle, the height of the column is to be divided into eight parts and a half; one part for the thickness of the column. For the Systyle, the height shall be divided into nine parts and a half; one part for the thickness of the column. Also for the Pycnostyle, the height shall be divided into ten parts; one part for the thickness of the column. The Eustyle also is divided into eight parts and a half, the same as the Diastyle; one part is given for the thickness of the column; and for the solidity of its parts it shall have its proper intercolumniation. As the space between the columns increases, so ought also the thickness of the columns. If it is Araeostyle, and they should have only a ninth or tenth part for their thickness, they will then appear tall and slender, on account of the length of the intervals; for the air will in appearance diminish the thickness of the columns. On the contrary, if it is Pycno-

style, and the columns have an eighth part for their thickness, they have a clumsy and ungraceful appearance, on account of the frequency of the columns, and the narrowness of the intervals; for this reason, the symmetry and proportion of each order should be attended to. Also the thickness of the corner columns must be increased one fiftieth part; for, by the great surrounding space, they will appear smaller to the view, and it is necessary art should rectify this defect of vision.

For the diminution of a shaft of a column, the following rule may be observed: if the shaft of a column is fifteen feet high, the diameter of the lower part is divided into six parts; five of which are for the top diameter. If columns are from fifteen to twenty feet high, the lower diameter is divided into six parts and a half; five and a half of which are for the top diameter. If columns are from twenty to thirty feet high, the lower diameter is divided into seven parts; six of which are for the top diameter. If columns are from thirty to forty feet high, the lower diameter is divided into seven parts and a half; six and a half

of which are for the top diameter. If columns are from forty to fifty feet high, the lower diameter is divided into eight parts; seven of which are for the top diameter. If any are higher than those mentioned, they shall have the same proportions for their diminution.—An additional thickness is properly given, on account of the increased height; for, as the eye is attracted by beauty, it is necessary it should be flattered by the pleasure it receives from proportionate and just distribution of parts, as it is when deceived by judicious additions; else the whole will have a bulky and inelegant effect."



OF

THE HOUSES OF THE ANCIENTS;

THEIR

SITUATION AND DISTRIBUTION.

THIS article was intended for its proper place in the dictionary, but in making it at all satisfactory, it has so much increased, that I think it more advisable to make a separate article of it.

Respecting the dwellings of the ancients, we can only conjecture the situation of their various apartments, from combining the descriptions of several classic authors; little of such buildings remaining to guide our researches. Those of which traces are found, such as the baths of Titus, Caracalla, Dioclesian, the villas of Adrian, Mecænas, &c. are of little use to this inquiry, their extent and magnificence much exceeding all common structures.

To speculate on the accounts left by Pliny, and others, may not be unenter-

taining; perhaps not without its uses: for, from the numerous, studied, and multiplied conveniences of their villas, some new ideas of plan and distribution may arise; the comforts and conveniences of life are so valuable, that they should be sought from every source.

The Greeks and Romans were particularly solicitous to keep the body in health by constant and strong exercise; to this purpose, it was necessary they should have spacious covered places, that in bad weather they might not be obstructed in their diversions, or games; which tended as well to the health and strength of the body, as to that of the mind. Under this impression, it is not to be wondered, that their gardens, or pleasure grounds, were extensive, and possessed all those conveniences which conduced so much to health and delight, by freely enjoying the fresh air in the Gestatio, or the Xystus.

To avoid anticipating conjecture, I shall proceed to the subject in question, beginning with a description of the houses of the Greeks, next those of the Romans, and finishing with their villas.

OF THE DISPOSITION OF THE HOUSES OF THE GREEKS.

We shall here follow the account given by Vitruvius.—"The Greeks use no atrium, but from the gate of entrance they make a passage of no great breadth; on one side of which is the stable, on the other the porters' rooms, and these are directly terminated by the inner gate: passing on, is the peristylium, having porticos on three sides; on the south side, are two antæ, which support and form a passage, within which (i. e. to the right and left) are the great œci, in which the mistress of the family and the workwomen reside. To the right and left are cubiculi, or chambers, of which one is called *Thalamus*, the other, *Amphithalamus;* and under the porticos of the peristyle are the common dining rooms, chambers, and family rooms. This part of the edifice is called *Gynæconitis*.

Through the passage with the antæ, is a large house, having a more spacious pe-

ristyle, in which are four porticos of equal height, or sometimes the one which looks towards the south, has higher columns; and this peristyle, which has one portico higher than the rest, is called *Rhodian*. In these houses they have elegant vestibules, magnificent gates, and the porticos of the peristyle are ornamented with stucco, plaister, and lucunariæ, (compartments.)

In the portico which looks to the north, is the cyzican triclinium, and the pinacotheca; to the east are the libraries; to the west, the exhedræ; and in those looking to the south, are the square œci, so large, that they may easily contain four sets of dining couches, with the attendants, and a spacious place for the use of the games; in these halls, the men hold their convivial entertainments, for it is not customary in Greece for the mothers of families to lie down to dine. This peristylium and part of the house is called *Andronitides*, because here the men only are invited, without being accompanied by the women.

On the right and left, also, small houses are erected, having proper gates, dining rooms, and convenient chambers, that

when strangers arrive, they may not enter the peristylium, but be received in this hospitalium; for when the Greeks were more refined and opulent, they prepared triclinia, cubicula, and provisions, for strangers; the first day inviting them to dinner, afterwards sending them poultry, eggs, herbs, fruits, and other productions of the country. Masters of families, therefore, when they abode in the hospitium seemed not to be from home, enjoying the full liberty of retirement, in these apartments."

VITRUV. Lib. 6. cap. 10.

OF THE CITY HOUSES OF THE ROMANS.

RESPECTING the houses of the Romans, I know of no better guide than Vitruvius, who, after describing such as are proper for merchants, bankers, &c. observes; "Those of the nobles, who bear the honours of magistracy, and decide the affairs of the citizens, should have a princely vestibule, lofty atrium, (hall,) and ample

peristilium, with groves and extensive ambulatories, erected in a majestic style; besides libraries, pinacothecas, (picture rooms,) and basilicas, decorated in a manner similar to the magnificence of public buildings; for in these places, both public affairs and private causes are oftentimes determined."

From Vitruvius and other writers, the following may be considered as nearly the usual mode of distribution. The part which first presented itself, was the vestibulum, or what we call the portico; passing this, you entered the atrium, or hall, at the extremity of which was the tablinum, or repository for books, records, &c.; from the sides of the atrium, you passed by alæ, or ailes, to the cavædium, which was an open court, surrounded by a portico, or piazza, at the extremity of which was the basilica, or place to administer justice, &c.

The triclinia, or dining rooms, with their procœton, or room for attendants; the cubicula, or chambers, with the baths, were disposed on the sides of the cavædium; also on the sides of the basilica

were the pinacotheca, or rooms for pictures and library; passing all these apartments, you entered the peristylium, which was as spacious as possible, and surrounded with a portico, or piazza; this was always of an oblong form; at the extremity of the peristylium were œci, or halls, of which Vitruvius mentions the Corinthian, the Tetrastyle, the Egyptian, and the Greek, or Cyzican.

The Corinthian œci have columns placed either on the podium (dado) or on the floor; and above have an architrave and cornice. The Egyptian had the columns detatched from the wall, in the manner of a peristyle; the space between the columns and the wall was covered with a pavement, and formed a walk round. This range of columns supported an entablature, on which was placed another range of columns, one fourth part smaller than the former, between which were the windows. The Greek or Cyzican œci were situated towards the north, generally had a view of the garden, with folding doors in the middle; they had also folding windows,

to the right and left, that the garden might be seen.

The Tetrastyle œci, from the name, appears to have had only four columns, and consequently was of the less enriched sort.

OF THE VILLAS OF THE ROMANS.

The Roman Villas consisted of three parts, one called the *Urbana*, a part where the master and his family dwelt; the other the *Rustica*, destined for the uses of husbandry; and the third the *Fructuaria*, or receptacle for the fruits of the earth.

In the choice of situation and aspect, the Romans were very particular, the latter requiring peculiar attention, as only by the aspect of the buildings and rooms, could they be rendered conveniently habitable in bad weather; glass for windows being then unknown, and its substitutes costly, and not in general use.

Vitruvius has given us the following rules; the winter triclinium (dining room)

and bath should look to the winter's declining sun, because the afternoon light is there useful; besides the western sun shining thereon produces heat, and makes that aspect warm and pleasant in the evening; bed-chambers and libraries should look to the east, for in these the morning light is required; it is also proper, that the books in libraries may not decay, for in those that look to the south and west, they will be damaged by damps and worms, which the humid winds generate and nourish. The spring and autumn triclinium should look to the east, for the windows being then turned from the sun, proceeding westward, render those places temperate at the time they are generally used. The summer triclinium should look to the north, because this aspect is not, like the others, rendered hot at the summer solstice; for being turned from the course of the sun, it remains always cool, and when used, is salubrious and pleasant. To the same aspect, also, should be disposed pinacotheca, (picture room,) as well as embroidering and painting rooms, that the colours used in the works, on account

of the equality of the light, may remain unchanged.

The better to convey an adequate idea of the extent, accommodation, and grandeur of the Villas of the Romans, I shall add Pliny's (the Consul) description of his Villa at Laurentinum. It may be proper to observe, that this Villa was considered as on a small scale.

After describing the route, the views on the road, &c. he adds, my Villa is large enough to afford a convenient, though not sumptuous reception for my friends. The part which first presents itself is the *atrium*, (court yard,) plain, but not mean; then the *portico*, in form of the letter O, which surrounds a small, but pleasant area; this is an excellent retreat in bad weather, being sheltered by glazed windows, but more by the projection of the roof. Beyond the *portico* is a pleasant *cavædium*, (open court,) passing which, is a handsome *triclinium*, which advances upon the shore, so that it is gently washed by the waves, when the south-west wind blows. On every side are folding doors, or windows as large, so that from the sides and the

front, you enjoy a prospect, as it were of three seas, and backwards are seen the *cavædium*, the *portico*, and the area; again the *portico*, and *atrium*, terminated by woods and distant mountains. On the left of the *triclinium*, but not so forward, is a large *cubiculum*, (chamber or apartment,) and then a smaller one, where one window admits the rising, and another the setting sun. From hence, you view the sea rather more distant, but more securely. This *cubiculum* and *triclinium*, by their projecture, form an angle, which not only retains, but augments the heat of the sun's rays.

Here then is my *hybernaculum*, (winter room or apartment,) and the *gymnasium* (place for exercise) for my family, which is never incommoded by any winds, but such as bring cloudy weather, and destroy the otherwise serene situation of the place. Adjoining to this angle, is a *cubiculum*, of a curved or round form, the windows of which admit the sun of consequence through its whole course. In the walls, are inserted library presses, furnished with books, more for amusement than study; close to this, is the *dormitorium*, (sleeping

room,) separated by a space, having a covering of wood work, which collects and distributes the vapour to the room, in salubrious temperament. The remainder of this wing is allotted to my servants and slaves; yet is generally sufficiently neat for visitors.

On the right side of the *triclinium*, is a most elegant *cubiculum*, with another large *cubiculum*, or moderate *cœnatio*, (common eating, or supping room,) which receives light, both from the sun and the sea; after this, is a *cubiculum*, with a *procœton*, (servants' room,) for height, a summer, but for shelter, a winter apartment; being screened from all winds: a wall only separates another *cubiculum*, with a *procœton*. There you enter the spacious and extensive *cella frigidaria* of the bath; against the walls of which, are two projecting *baptisteria*, sufficiently large to swim in; joining to this, is the *unctuarium*, the *hypocaustum*, and *propnigeon* of the baths; and two other cells, more elegant than sumptuous. Skilfully contrived, adjoins the *callida piscina*, (warm bath,) where those who swim, enjoy a view of the sea: not

far distant, is the *sphæristerium*, (tennis court, of a circular form,) which enjoys the warmest rays of the declining sun.

Here arises a *turris*, (pavilion, or summer house, under which are, two *diætæ* (suite or set of apartments,) and two also above, besides a *cœnatio*, from which is a beautiful prospect of the sea, the distant coast, and several pleasant villas; there is, also, another *turris*, containing a *cubiculum*, exposed to the rising and the setting sun; behind this is an *apotheca*, and *horreum*, (cabinets, or store rooms,) and underneath a *triclinium*, where the noise of the sea is not heard, but only in storms, and then but faintly. This looks on the *gestatio*, (a place to exercise on horseback, or in a carriage,) and the garden which it surrounds.

The *gestatio* is encompassed with box, or rosemary, where the box is wanting; for box, when well sheltered, flourishes much, but withers, if exposed to the wind, or weather, or the spray of the sea. To the inner circle of the *gestatio*, is joined, a shady row of young vines, with a walk, soft and pleasant, even to the naked feet

The garden abounds with fig and mulberry trees, to which the soil is suitable, but not to other trees. The prospect here, not less pleasant than that of the sea, is enjoyed from a *cænatio*, rather distant from the sea; on the back it is encompassed with two *diætiæ*, whose windows look to the vestibule of the villa, and to a fruitful kitchen garden.

Hence, a *crypto-porticus*, (a long inclosed room, or portico,) extends, for size, comparable to a public building, with windows on both sides; those next the sea, the most numerous, on the garden side they are single, with fewer in the upper row. These, when the day is serene and calm, are all opened, but when the wind is troublesome, those on the opposite side are opened without any inconvenience. Before the *crypto-porticus*, is a *xystus*, (a spacious place for exercise, or a terrace,) fragrant with violets, in which the heat of the sun is increased by the reflection of the *crypto-porticus*, which, at the same time, keeps off the north-east wind; wherefore it is hot in the front, and cool in the rear; it also screens from the south-

west, and several other winds. These are its delights in winter; but much greater does it afford in summer; for before mid-day, the *xystus*, and after, the *gestatio*, and neighbouring parts of the garden, are made temperate by its shadow, which is longer, or shorter, as the day proceeds. The building is also the coolest, when the sun shines most intensely on the roof; by opening the windows, the western breezes are enjoyed, and it is therefore never clouded by thick or stagnant air.

At the top of the *xystus*, projecting from the *crypto-porticus*, is the *diætæ* of the garden, and these are my delight; for here in truth, have I placed my affection. In this is an *heliocaminus*, (an apartment made warm by the sun,) one side of which looks to the *xystus*, the other to the sea, and both to the sun. From the folding doors, is seen the *cubiculum*, from the windows, the *crypto-porticus*; on the side next the sea, and opposite the wall, a very elegant *zotheca* (a closet or small room) recedes, to to which a *cubiculum* is either added, or separated, by means of glazed windows and curtains. Here are placed two chairs

and a bed, from the foot of which, you have a prospect of the sea; from the back, of the neighbouring villas; and from the head, of the woods: each window giving a particular prospect, which may be seen either together, or separately. Adjoining is a *cubiculum*, for night and sleep; for here neither the noise of servants, the murmurs of the sea, the roaring of tempests, the glare of lightning, or even the light of day is perceived, till the windows are opened; but all is profound silence, which is caused and preserved by an *andron*, (an open court, or space,) which is between the wall of the *cubiculum*, and that of the garden; so that all the noise is drowned by the void space between.

Close to the *cubiculum*, is a small *hypocaustum*, (stove,) the heat from which, by a small window, may be regulated at pleasure. Thence a *procæton* and *cubiculum* extend into the sun, where it is enjoyed, though obliquely from its rise, till after mid-day.

When retired to these apartments, I seem as absent from my villa; I receive great delight here, particularly in the time

of the Saturnalia, when the other parts of the villa, by the accustomed freedom allowed at those times, resound with festive clamours; for here, I neither obstruct the diversions of my servants, nor they my study.

These conveniences, these pleasures, are deficient in falling water, yet near the surface are wells, or rather springs," &c.

PLINII, Epist. lib. 2. Ep. 17.

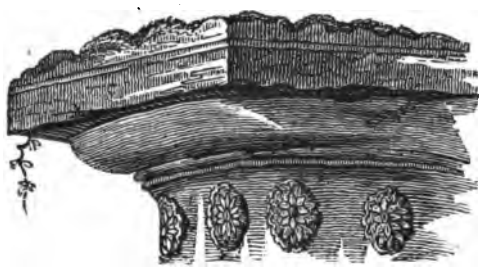
This copious description conveys a pretty accurate idea of the extent of a Roman villa, its numerous apartments, with various and multiplied conveniences; in the description of Tuscum, by the same Pliny, which merits to be called, in modern language, a mansion, more than a villa, being surrounded by an extensive domain, and distant from Rome, (one hundred and fifty miles;) here apartments more numerous, and of greater elegance, are described; and the garden, or pleasure grounds, were more abundantly accommodated with extensive buildings and conveniences; nor were these two villas all which were possessed by the Consul, for he writes to a friend; "I prefer my villa of *Tuscum*, to those of *Tusculum*,

Tybur, and *Præneste*." These three, as well as Laurentinum, were in the vicinity of Rome. On the borders of Lake Larium, (his native place, now called Lake Como, on the confines of Switzerland,) in Epist. 7. lib. 9. he mentions having several seats; two of which afforded him particular delight; and from their solemn and gay situations, he called one Tragedy; the other he called Comedy; from one out of the bed-chamber, almost from the bed, you might angle in the lake below.

Of neither of these villas are there any remains. What has been traced of the Tyburtine villa of Adrian, according to the plans published by Piranesi, show it to have been of an amazing extent; here was, each upon a grand scale, an *Hippodrome*, a *Naumachia*, a *Theatre*, a *Palæstra*, a *Nimphæum*, a *Castle*, for a guard, with a temple to Mars; a *Piscina*, a *Bibliotheca*, a *Stadium*, a *Vestibulum*, of various apartments; (being the entrance to the baths, Stadium, &c. &c.) *Baths*, a *Pretorium*, a *Pinacotheca*, an *Hospitalia*, for visitors; a *Canopum*, an *Accademia*, an *Odeum*, and *Theatre*, a *Lyceum*, a *Palace*, for the Emperor; with many other buildings: each

of which were accommodated with various apartments, fitted up in a style of elegance and grandeur scarcely credible; this truly princely palace occupied an extent of ground above three miles in length.

The villa of Mecænas, in the neighbourhood of Tivoli, was also very extensive, and not less elegant.



A

DICTIONARY OF TERMS

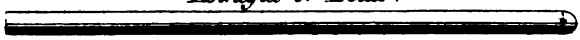
USED IN

ARCHITECTURE.

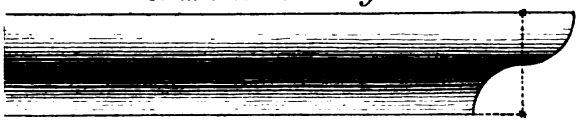
MOULDINGS.

Annulet, List or Square.

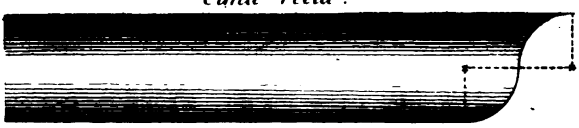
Astragal or Bead.



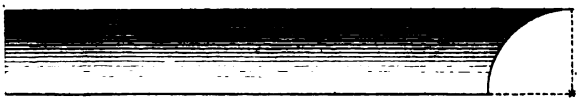
Cima reversa or Ogee.



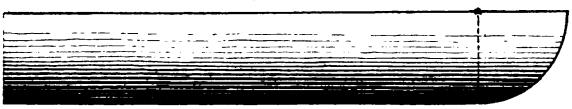
Cima recta.



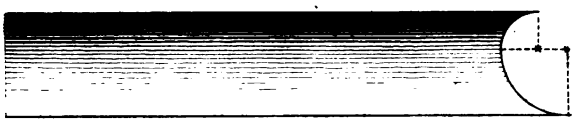
Cavetto or hollow.



Ovolo or Quarter round.



Scotia.



Torus.

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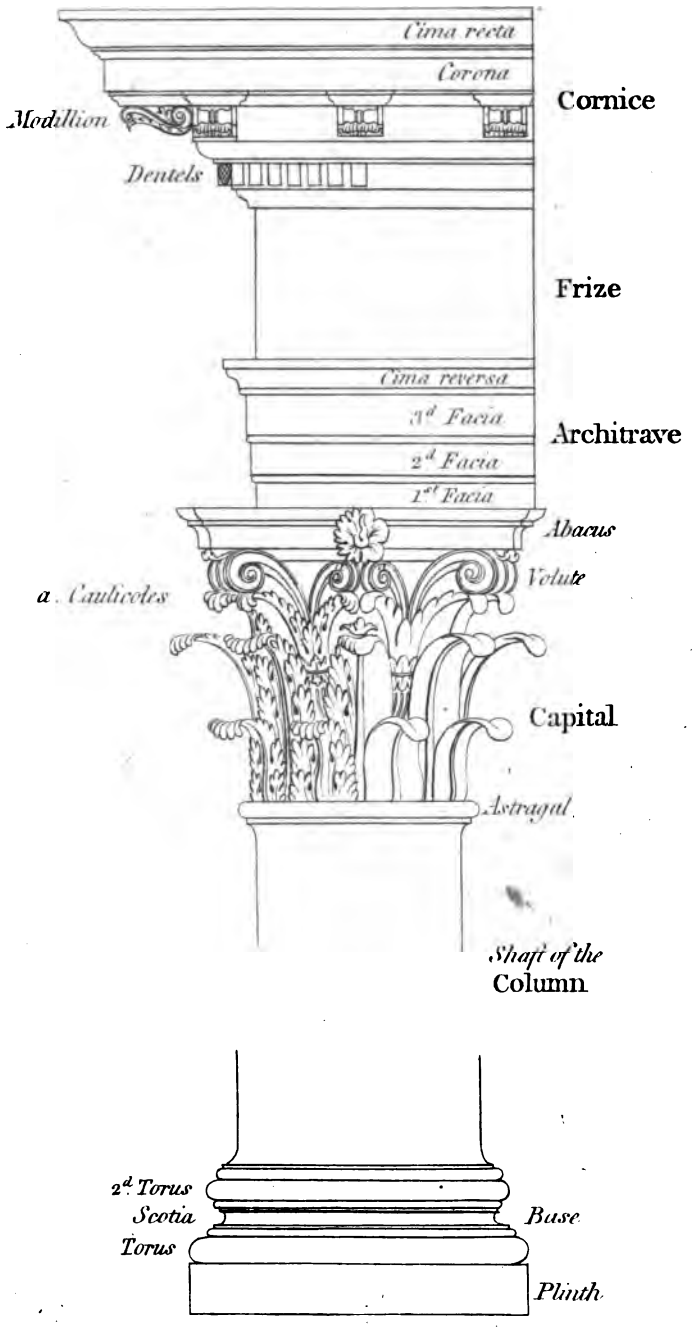

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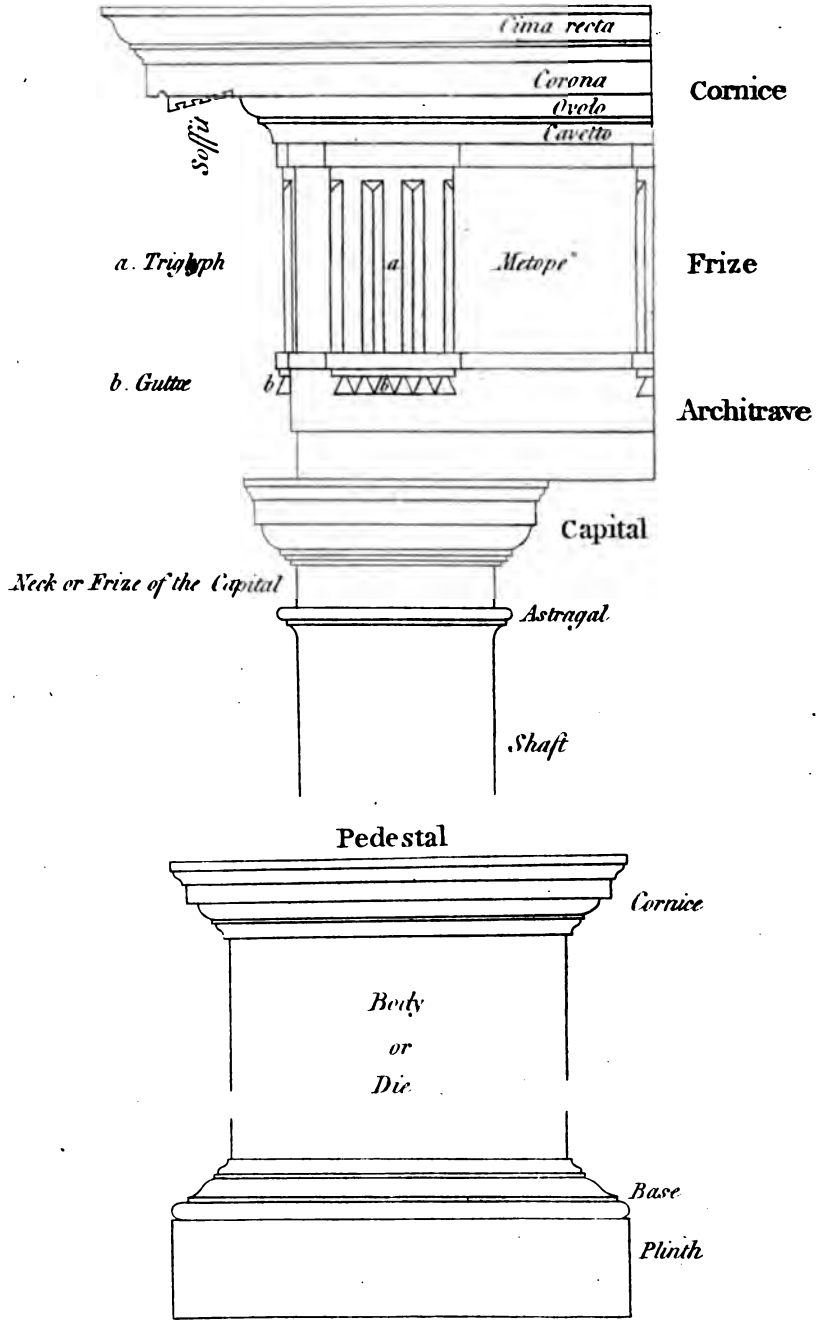

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DICTIONARY.

ABA A ADY

Abacus, the upper member of a column, which serves as a covering to the capital. To the Tuscan, Doric, and ancient Ionic, it is square; to the modern Ionic, Corinthian and Composite, each side is arched, or cut inwards, and is decorated in the centre with a flower or other ornament. See Plates 9, 10.

Acanthus, a plant, whose leaves form an ornament in the Corinthian and Composite capitals, and are said to have originally given rise to the former order.

Acroteria, a kind of base, placed on the angles of pediments, usually for the support of statues, &c.

Adytum, a sacred place in a temple, where none but priests were allowed to enter,

answering to the *Sanctum Sanctorum* of the Jews.

ALÆ, Ailes, also passages in theatres, houses, &c. also in rooms, &c. the space between the walls and the columns.

AMPHIPROSTYLE, *i. e.* double prostyle, or having pillars on both fronts; according to Vitruvius, the third order of temples. See page 59.

AMPHITHEATRE, a place for exhibiting shows, very spacious, of a round or oval figure, with many seats rising on every side. The area in the middle was called *Arena*, because it was covered with sand, or saw-dust, to prevent slipping, and to absorb blood. It was also called *Cavea*, because surrounded by the caves, or dens, in which the wild beasts were kept. The *Arena* was surrounded by a wall of twelve or fifteen feet in height, the top of which formed a parapet or defence to the front seat, which was therefore called *Podium*. The seats were distributed, the same as in a theatre. The entrance to the seats was called *Vomitoria*, the passage by which to ascend to the seats *Scalæ*, or *Scalaria*, and the

seats between two passages, from the wedge-like form, was called *Cuneus*; these, as well as theatres, were, originally, only temporary, and of wood; many were afterwards built of stone. Rome had several; the principal, was that built by Titus, called the *Coliseum*, which was large enough to contain eighty-seven thousand persons.

ANDRON, a passage, open space, or court.

ANNULET, a small square moulding, which serves to crown or accompany a larger, and to separate the flutings in columns. See Plate 8.

ANTEPAGMENTA, the outer and ornamented covering to the jambs and lintel of a door case, now called *Architrave*.

ANTÆ, a species of pilasters on the extremity of a wall usually having no diminution, nor do the mouldings of their capitals or bases always resemble those of the columns.

ANTÆ, or *Antis*, i. e. pilasteral; according to Vitruvius, the first order of temples. See page 58.

APOPHYGE, that part of a column where

it begins to rise upwards out of its base.

APOTHECA, a cabinet, or store closet.

AQUÆDUCT, an artificial canal, built for the conveyance of water from one place to another, either running under ground, or rising above it. The Romans built very magnificent aquæducts, some of which, passing through rocks and mountains, and over vallies, brought water to Rome, from the distance of sixty miles; their height in some places more than one hundred and nine feet; raised on two or three tiers of arches. The water brought to the *(Castellum)* reservoirs, in the city, was copiously distributed to all parts by pipes. *Frontinus* has left a treatise on the subject, wherein are described nine aquæducts; others were afterwards added.

ARCH, a part of a circle or other curve.

ARÆOSTYLE, according to Vitruvius, the fourth method or species of intercolumniation, to which four diameters are allowed between each column. See page 65.

ARCHITRAVE, the lowest principal member of an entablature, lying immediately upon the abacus of the capital. See Plates 9, 10.

ASTRAGAL, a small round member resembling a ring, which terminates the extremities of the column; which is sometimes applied at the lower edge of the architrave, in modern works. See Plate 8.

ATTIC BASE. See *Base*. See Plate 7.

ATRIUM, a hall of entrance to houses of the ancients. The Pantheon at Rome served as a Vestibule or Atrium to the Baths of Agrippa. The Atrium was sometimes considered as a place sacred to religion; here were the statues of their ancestors; and here they paid their devotions to the household gods. In villas, where space could be better allowed, the *atrium* resembled most a spacious fore court.

B.

BALUSTER, small columns or pillars of wood, stone, &c. used on terraces or

tops of buildings for ornament, and as a railing, and, when continued, form a *balustrade*.

BAND, a general term for a low, flat, or square member.

BASE, the lower and projecting part of a column and pedestal. See page 47. See Plates 7, 10.

BASILICA. See *Forum*.

BATHS, *Thermæ*, Rome was supplied with a vast number of baths, (more than eight hundred,) for public use; of these, some were of extent and magnificence almost exceeding belief, did not the remains of those of Titus, Dioclesian, Antoninus, &c. fully answer the records of history; they had principally this disposition—to be turned from, or sheltered from the north and north-east. These stately buildings contained porticos, walks, groves, fish-ponds, tennis courts, halls, and an infinite variety of apartments, for undressing, sweating, and other uses: these were adorned with the most valuable marbles, Jasper, Alabaster, and Porphyry, ornamented with paintings of the most costly and vivid colours,

heightened with gold; the floors were of Mosaic work; the perfumes of Arabia abounded; the water conducted through pipes of silver, fell into cisterns of silver: and as much time was spent by the Romans in bathing, and great numbers of people resorted to the baths, they became what we call a lounging place; for here poets sometimes read their composition, and studious men used to compose, hear, dictate, &c. The baths of Dioclesian are reported to have had accommodation for eighteen thousand bathers. The names of the bathing apartments were, *Frigidarium*, the cold bath; *Calidarium*, the hot; and *Tepidarium*, the tepid: the stove room, *Hypocauston*; the sweating room, *Sudatoria*; the undressing room, *Apodyterium*; the perfuming room, *Unctuarium*.

BOSSAGE, a term used for any stone laid with a projection beyond the upright of a building, to be afterwards cut into mouldings, or other ornaments; it is also used for rustic work, because the rustics project over the perpendicular of the building.

BRICKS, the ancients used three sorts;

one which the Greeks call *Didoron*, which are such as the Romans use; they are a foot and a half long, and a foot broad; the other two sorts are used in the buildings of the Greeks; one of which they call *Pentadoron;* the other *Tetradoron;* these bricks, therefore, which have on every side five palms, are called *Pentadoron;* and those which have four, *Tetradoron;* in public works they use the former, and in private the latter: of these bricks they make half bricks; and in working, the whole bricks are placed in one course, and the half bricks in the other; so that when both parts are built to a level, they appear to be laid in the walls with alternate faces outward; the middle of the brick being disposed perpendicularly over the joints, giving strength, and not an unhandsome appearance to both parts.—*Vitruvius.* Pliny says they were all one foot broad, and differed in length only. No idea is here given of their thickness; they were made rather thin, almost like our ten-inch tiles; as may be seen in the remains of a Roman

building, within the walls of Dover Castle, and in many other fragments of Roman structures in England.

BUTMENT, a supporter or prop, on or against which the feet of arches rest.

BUTTRESS, a kind of butment, built sometimes archwise, as to Gothic buildings: a mass of stone or brick work, serving to prop or support buildings, walls, &c. on the outside, where their great height or weight require additional strength.

C.

CALIDUCTS, pipes or canals, disposed in or along the walls of houses, for conveying hot air to distant apartments, from a common or central furnace, as practised by the ancients.—This method has been adopted in modern buildings, with success and economy.

CANOPUM, a temple to the Egyptian God *Canopus*, which, from the story related by Suidas, represented the element water.

CAPITAL, the uppermost member of a column, which is as a crown or head thereto, placed immediately over the *shaft*, and under the

architrave; no column is complete without a capital, which has a distinguishing character for each order.—Tuscan and Doric capitals consist of mouldings; Ionic of volutes; Corinthian, and Composite capitals, of leaves and other ornaments.

CARTOUCHE, an ornament in sculpture representing a scroll of paper, &c.

CARYATIDES, a kind of order in Architecture, in which a female figure is applied instead of a pillar: the origin of which is thus handed down by Vitruvius: the inhabitants of Caria, a city of Peloponnesus, made a league with the Persians against their own nation; but the Persians being worsted, they were afterwards besieged by the victorious party, their city taken and reduced to ashes, the men put to the sword, and the women carried away captives. To perpetuate the memory of this victory, the conquerors caused public edifices to be erected, in which, as a mark of degradation and servility, the figures of the captives were used instead of columns, thus handing down to posterity their merited servility and punishment. When

figures of the male sex are used, they are called *Persians* or *Perses*.

CATADROME, an engine of the ancients, like a crane, used to raise great weights.

CAVÆDIUM, an open court, or void space within the body of a house.

CAVETTO, a concave moulding of one quarter of a circle. See Plate 8.

CAULICOLI, the little twists or volutes under the flower on the abacus in the Corinthian capital, represent the twisted tops of the acanthus stalks; are called also *Helices*.

CELL, in an ancient temple, is the inclosed space within the walls,

CINCTURE, a ring, list, or fillet, at the top and bottom of the shaft of the column; that at the bottom is called *Apophyge*; the top one is called *Annulet*, or *Astragal*.

CIRCUS, the length of the *Circus maximus* was three stadia (or furlongs) and a half; the breadth a little more than one stadium; so that the extreme circumference was more than one mile. In the middle, for almost the whole length was a wall, called *Spina*, twelve feet

broad, and four feet high; ornamented with various trophies, statues, &c. This Circus was originally built by Tarquinius Priscus, and was greatly enlarged and beautified by the Emperors; Julius Cæsar adorned it with porticos three stories high, and encompassed the inside with a canal, called *Eupirus*, ten feet wide. The seats were in the same form as in the theatres, and were sufficiently spacious to hold one hundred and fifty thousand persons. Augustus added on the middle of the Spina, an obelisk of Egyptian granate, one hundred and thirty-two feet high; he also enlarged it, so that it would accommodate, according to the report of Pliny, two hundred and fifty thousand persons. There were other Circi at Rome; particularly those of Flaminius, Nero, Caracalla, Severus, &c.

CŒNATIO, a supper room; these were smaller than the *Triclinium*, or Æcos, and were perhaps what we call the common sitting room or parlour.

COLLARIN, or *Collarino*, the neck or frize of a Tuscan or Doric capital.

COLONNADE, a series or continuation of Columns.

COLUMN, a round pillar used in Architecture, to adorn or support. Columns are of five kinds; the *Tuscan*, *Doric*, *Ionic*, *Corinthian*, and *Composite*, each of which has its particular proportion. The term includes the base and the capital.

COMPOSITE *order*, one of the five orders of Architecture.

CONGE, a small moulding, which serves to separate larger ones, called also *List*, or *Annulet*.

CONSOLE, an ornamented block projecting from the wall to support a bust, &c. and is frequently seen cut on the key stone of arches; it is also used sometimes under a cornice to doors, windows, &c.

CONTOUR, the outline of a figure, or piece of Architecture.

COPING *of a wall*, the top or covering made sloping to throw off water.

CORBEILLE, carved work, representing a basket with fruits or flowers, serving as a finish to some other ornament. It sometimes is applied to the vase of the

Corinthian capital, the word originally meaning a basket.

CORINTHIAN *order*, one of the five orders of Architecture.

CORNICE, the upper assemblage of members in an entablature, commencing at the frize; each order has its particular cornice, with suitable enrichments. To the *Tuscan* it is quite plain; to the *Doric* are added mutules; the *Ionic* has denteles; the *Corinthian* modillions; the *Composite* has both denteles and modillions. See Plate 9, 10.

CORONA, a large flat and strong member in a cornice, called also the *Drip*, or *Larmier*; its use is to screen the under parts of the work, and, from its shape, to prevent the water running down the column; it has always a large projection to answer its proposed use. The under, or horizontal part of the corona, is called the *Soffit*, and admits of various degrees of ornament, according to the richness of the order.

CORRIDOR, a gallery or passage in large buildings, which leads to distant apartments.

CRYPTO-PORTICUS, a vaulted, subterraneous or obscure place; also an enclosed or private porticus, in dwelling houses, for exercise, walking, &c. in bad weather.

CUPOLA, a round roof or dome, in the form of an inverted cup.

CUBICULUM, a room, or bed-chamber.

CURIA, the hall or apartment in which the legislature, or principal persons of any district or parish, (*curiæ*,) assembled, both for religious and civil purposes, and in principal cities, was near the forum. The word is used now for courts of justice and legislature.

CYMA, *Cima*, or *Cymatium*, a species of moulding, which is generally the upper one to an entablature. There are two sorts of this moulding, the *cyma recta*, and *cyma reversa*. See Plate 8.

D.

DECASTYLE, in ancient Architecture, a building with ten columns in front.

DENTELE, an ornament resembling teeth, used in the Ionic and Composite cornices.

DIASTYLE, according to Vitruvius, the third species of intercolumniation, having three diameters between the columns.

DIÆTA, a set or suite of apartments; but no determinate number of rooms.

DIE, the square or naked piece in a pedestal, that part which is between the base and the cornice. See Plate 10.

DIPTEROS, *i. e.* having a double range of columns; according to the arrangement of Vitruvius, is the sixth order of temples.

DOME, a spherical roof. See *Cupola.*

DORIC *order*, one of the five orders of Architecture.

DOORS of the ancients were commonly raised above the ground; were made of wood, brass, or iron; and to temples, of ivory and gold. Folding doors were called *valvæ*, the doors opened inwards, unless otherwise permitted by especial law: as to P. V. Publicola, and his brother, who had twice conquered the Sabines; but the Greek mode was to open to the street, and when any one went out, he knocked on the inside, to

give warning to those without to take care; the most ancient doors were narrower at top than at bottom: they had doors of two, three, and four leaves or folds.

DRIP. See *Corona.*

DROPS, or *Guttæ*, in the Doric entablature, are small pyramids or cones, immediately under the triglyph and mutule.

E.

ECHINUS, is properly the egg and anchor ornament peculiar to the *Ionic* capital: it is sometimes used for the whole moulding instead of *ovolo.*

ENCARPUS, used to express festoons of fruits or flowers on frizes, &c. literally means fruit only.

ENTABLATURE, an ornament or assemblage of parts, supported by a column or pilaster over the capital: each order of columns has a peculiar entablature divided into three principal parts; the *architrave*, which is divided into two or more *facia*, and rests upon the capital. The *frize* is next, and may be plain or ornamented.

The *cornice* is the top or crowning part. See Plates 9, 10.

EPISTYLE, the same as architrave.

EUSTYLE, according to Vitruvius, the fifth and most eligible method of intercolumniation, having two diameters and a quarter between the columns.

EXHEDRA, in ancient architecture, a large recess, where company used to retire for conversation, &c. in extensive buildings was a distinct apartment.

F.

FACADE, the front view or elevation of a building.

FACIA, a flat member in the entablature of an order, representing a band or broad fillet in an architrave; if divided, these divisions are called the first facia, the second facia, &c. See Plate 9.

FASTIGIUM, the name used by Vitruvius for what we call a *pediment*.

FILLET. See *Annulet*.

FLUTINGS, the hollows or channels, which are cut perpendicularly in columns by way of ornament, and which should always

both begin and end in the shaft, near the extremity of the apophyges; though there are examples to the contrary. When flutings are used the capital should be enriched.

FOLIAGE, an assemblage of leaves.

FORUM, a market place, where things are sold: also where the courts of justice are kept. The Greeks, says Vitruvius, make their forums square, with large double porticos, the columns close together, adorned with stone or marble cornices, having ambulatories in the upper stories: but the Romans follow not the same method; for, by ancient custom, the shows of gladiators are given in the forum: for this reason the intercolumniations around the area are made wider. In the surrounding porticos the shops of the bankers are disposed; with galleries in the upper floors, properly adapted for the use and management of the public revenue: the proportion to be one third longer than broad. Adjoining the forum, on the warmest side, was the *basilica;* where were large covered halls, with galleries

supported by elegant columns: in these galleries were shops, where the finest wares were sold; in the middle was a large space for the convenience of merchants and men of business; at one end was the *tribune*, where causes were heard, and other public business transacted. In parts of this building also the lawyers or counsellors had apartments. These structures having frequently been converted into christian churches, they, from them, have obtained the name of *basilica*.

FOOT. See *Measure*.

FRIZE, or *Frise*, the middle member of an entablature, having the architrave below, and the cornice above.

FRONTISPIECE, sometimes signifies the whole face or aspect of a building, but is more properly applied to the decorated entrance of a house.

FUST, the shaft of a column, or that part which is between the base and the capital.

G.

GESTATIO, a place in the gardens of the ancient Romans for exercise on horseback, or in a carriage, the form generally circular.

GLYPHS, the perpendicular channels cut in the *triglyphs* of the Doric frize.

GOLA, or *Gula*, a moulding, more usually called *cyma reversa*, or *ogee*.

GORGE, a hollow moulding, a *cavetto*.

GOTHIC Architecture, a style distinct from the Grecian or Roman, although derived from the latter. The early examples are characterized by circular arches springing from massy columns, called the Saxon style; this afterwards merged into the pointed arch of various forms, beautifully ornamented with foliage, &c. wrought with skill and elegance: the early examples of this style are called Norman, and the latter ones Gothic, which are generally much enriched. In England there are many examples of each sort.

GULA. See *Gola*.

GUTTÆ. See *Drops*.

GYMNASIUM, a place for exercise, public or private. See *Palæstra.*

H.

HELIOCAMINUS, a place or room made hot by the heat of the sun; Nero appointed one to be made on the portico before his palace.

HELIX or *Helices.* See Cauliculi.

HEXASTYLE, a temple, &c. having six columns in front.

HIPPODROME, a place where the ancients exercised their horses, also the course for the horse-race.

HORREUM, a Granary, or Repository.

HOUSE, the houses of the ancients had great and magnificent vestibules or entries, which were sometimes two hundred and twenty feet long, and one hundred and sixty broad, supported with two ranges of pillars, which formed a wing on each side. The Greeks and the Romans differed in the distributing and ordering their apartments. The Romans had magnificent courts and entries, but the Greeks only a narrow

entry through which they passed into a peristyle; this entry or passage had on one side the porter's lodge, and on the other the stables. Among the Greeks, the apartments of the women were separate from those of the men, and the latter dined by themselves. See the distribution of ancient houses, farther explained in the former part of this book.

HYPÆTHRAL, *i. e.* uncovered, or open to the sky; according to Vitruvius, the seventh order of temples, and without a roof.

HYPOTRACHELION, the neck or frize of a capital.

I.

IMPOST, a facia or small cornice which crowns a pier or pilaster, and from which an arch springs.

INSULATED, standing alone, or detached from any contiguous building, &c.

INTERCOLUMNIATION, the space between two columns, for the particulars of which, see page 64.

IONIC *order*, one of the five orders of Architecture.

K.

KEY-STONE, the highest stone of an arch, to which a projection is usually given, and which is sometimes cut in ornaments.

L.

LACUNARIÆ, pannels or coffers in ceilings, or in the soffits of cornices, &c.

LARMIER. See *Corona.*

LIST, or *Listel.* See *Annulet.*

M.

MEASURE *of length* of different countries being of much importance in examining buildings, and a comparison that could be depended on not being before collected into a convenient form, the following modern measures have been carefully deduced from the best authorities; taking the English foot of twelve inches as the standard:

		Inches.
London	Foot	12.000
Amsterdam	Foot	11.139
Berlin	Foot	12.188
Bern	Foot	11.540
Bologna	Foot	15.014
Cairo	Derah or Cubit	21.888
Constantinople	Great Turkish Pike	26. 4
	Lesser Turkish Pike	25.575
Copenhagen	Foot	12.350
Florence	Braccio	22.925
Genoa	Palm	9.768
Koningsburg	Foot	12.108
Lisbon	Palm	8.603
Madrid	Foot	11.124
Milan	Braccio	23. 60
Naples	Palm	10. 32
Parma	Braccio	21.512
Paris	Foot	12.785
	Metre	39.371
Persia	Arish	38.364
Petersburgh	Archin	27.528
Rhinland	Foot	12.350
Rome	Palm	8. 82
Stockholm	Foot	11.684
Turin	Foot	12.713
Venice	Foot	13.670
Vienna	Foot	12.516

THE ANCIENT MEASURES.

GREEK.

Palm, Doren, Dochme, or Palaisee	3.022
Foot, Pous	12.09

ROMAN.

Palm, Palmus	2.901
Foot, Pes	11.606

METROPE, the interval or square space between the triglyphs in the Doric frize.

MEZZANINE, or *Mezzetti*, small or low rooms, or stories between principal ones, used as servants' apartments.

MINUTE, an *architectonic measure*, the lower diameter of a column divided into sixty parts, each part is a *minute*. See *module*.

MODILLION, an ornament resembling a bracket, in the Corinthian and Composite cornices. See Plate 9.

MODULE, an *architectonic measure*, the lower diameter of a column divided into two parts, one is a *module*, each module is divided into thirty *minutes*; thus either is not a determinate, but a proportionate measure.

MONOPTERAL, a round temple without a cell. See page 61.

MOULDINGS, those parts which project beyond the face of a wall, column, &c. intended only for ornament, whether round, flat, or curved: the regular mouldings are, 1st, the *list* or *annulet*; 2d, the *astragal* or *bead*; 3d, the *cyma reversa* or ogee;

4th, the *cyma recta*; 5th, the *cavetto*, or hollow; 6th, the *ovolo*, or quarter round; 7th, the *scotia*; 8th, the *torus*. See Plate 8. For general observations on mouldings, their dispositions, &c. see page 41, &c.

MUTULE, an ornament in the Doric cornice, answering to a *modillion* in the Corinthian.

N.

NAUMACHIA, the representation of a sea fight, which was at first made in the *circus maximus*, but afterwards elsewhere. Augustus dug a lake for this purpose near the Tiber; and Domitian built a Naval Theatre.

NICHE, a cavity or hollow in a wall for statues, &c.

NYMPHÆUM, grottos, or buildings ornamented with statues, fountains, &c. and dedicated to the nymphs. These were perhaps occasionally the entrance to private or retired baths.

O.

OCTASTYLE, an edifice having eight columns in front.

ODEUM, a structure built by Pericles, at Athens, for the performance of music. Plutarch says it had within many rows of seats and of pillars. The roof was of a conical figure, after the model of the king of Persia's pavillion.

ŒCI, halls. See the account of the Roman houses.

OGEE, a *cyma reversa.*

ORDER, in Architecture, a column entire, consisting of *base*, *shaft*, and *capital*, with an *entablature*. For a particular account of each *order*, see the beginning of this work.

OVA, or *ovum*. See *Echinus*.

OVOLO, a moulding which projects one quarter of a circle, called also a *quarter round*. See Plate 8.

P.

PALM. See *Measure*.

PALÆSTRA, or GYMNASIUM, a Grecian structure, in its use answering nearly to

the *baths* of the Romans; it was more extensive, being intended principally for bodily exercises, and formed a part of the civil establishment of the Greeks. The first part, as one may say, consisted of a large *Peristyle;* under the porticos were spacious exhedræ, with seats, where the rhetoricians and philosophers taught and conversed. This peristyle, whether square or oblong, was always two stadia, or a quarter of a mile in circumference; the fourth portico on the south side was double, to protect from tempestuous weather: in the middle of this portico was the *ephedium*, which is a very spacious exhedra with seats: on each side of which were the baths, hot and cold, with their apartments. Beyond was another peristyle of four stadia in circumference; under these porticos, called by the Greeks *Xystos*, the athletæ exercised in the winter season. The area or middle space had groves of trees, called *Xystacum Silvis.* At the farther end was the *stadium*, made with rising steps, where the numerous spectators stood to see the

exercises. Several of these *gymnasia* were at Athens, and other places; the most remarkable, as well for size as elegance, was at Athens, near the river Ilissus, built by Herodes Atticus, of white marble.

PEDESTAL, a square body on which columns, &c. are placed. See Plate 10.

PEDIMENT, a low triangular ornament in the front of buildings, and over doors, windows, &c.

PIER, a kind of pilaster or buttress, to support, strengthen, or ornament; the pier of a bridge is the foot or support of the arch. The wall between windows or doors. Also square pillars of stone or brick, to which gates to an entrance are hung.

PENTASTYLE, an edifice having five columns in front.

PERIBOLUS, the circuit or wall inclosing the consecrated place where a temple stands.

PERIDROME, the space in a *peripteral* temple, which is between the column and the cell.

PERIPTERAM, *i. e.* having columns all

around; according to Vitruvius, the fourth order of temples; also round temples.

PERISTYLE, a range of columns or colonnade, within a court or building like a cloister: the internal colonnade to the *hypæthral* temple is a *peristyle*.

PIAZZA, an open space for public walks, &c. mostly surrounded by buildings, colonnades, arcades, &c.

PILASTER, a square pillar or column, usually placed against a wall, and projecting one fifth or one sixth of its breadth; has the same proportions and ornaments as a column, but no diminution.

PILLAR, this word is generally used in Architecture, in common with *column*, though, strictly speaking, they are different; thus the supporters in Gothic Architecture are pillars, but can never be properly termed columns, varying in shape and every particular from the latter.

PLAT-BAND, any flat square moulding with little projection; the different facias of an architrave are called plat-bands; the

same is applied to the list between flutings, &c.

PLINTH, the lower member of a base. See Plates 9, 10.

PODIUM, a parapet, or fence wall. In the amphitheatre I apprehend this name denoted the front seats appropriated to the senate, foreign ambassadors, the Vestal Virgins, and the Emperor, and was raised twelve or fifteen feet above the arena. Also in a room, that part which answers to a pedestal, and is called the dado.

PORCH, an arched way, or covering at the entrance of a great building, particularly to churches.

PORTICO, a continued range of columns covered at top, to shelter from the weather; also, a common name to buildings which had covered walks supported by pillars; having these distinctions, when the portico was on the outside of the building it was called *peripterium*; and when on the inside of a hall, court, &c. *peristilium*; the place for walking, *porticus*. Among the ancients these were highly ornamented, and of great extent.

The remains of the portico at Palmyra shew it to have been full four thousand feet long. There was a square portico at Athens, whose circumference was fourteen hundred feet, adorned with Corinthian pillars, and a great variety of excellent paintings, and therefore called *poikile*.

POSTICUM, the porch in the back front of an ancient temple.

PRŒCETON, an anti-room for attendants, either to wait or to sleep.

PROFILE, the outline or contour of any building, &c.

PROSTYLE *i. e.* having pillars in front only; according to Vitruvius, the second order of temples.

PRONAOS, the front porch of an ancient temple.

PSEUDO-DIPTERAL, *i. e.* false or imperfect dipteral, the inner range of columns being omitted; according to Vitruvius, the fifth order of temples.

PTEROMA, the Greek word for a wall.

PYCNOSTYLE, according to Vitruvius, the first method of intercolumniation, having

one diameter and a half between each column.

PYRAMID, a structure, which, from a square, triangular, or other base, rises gradually to a point.

Q.

QUARTER ROUND, a moulding. See *Ovolo.*

QUOINS, stones or other materials put in the angles of buildings to strengthen them.

R.

RELIEVO, signifies the proportion of any carved ornament.

ROMAN *order*, the same as the *Composite.*

ROOF, the roofs of the ancients, according to Vitruvius, consisted of the following parts: *Trabes*, a beam, or wall plate; being the timber which is laid upon the walls, columns, &c. to receive and distribute the pressure of the roof. *Culmen*, the top or ridge, of consequence the ridge piece. *Columens*, from whence

columns derive their name. This must, therefore, be what we call the king-post. *Transtræ*, if the span of the roof is great, these therefore may be considered as large or principal rafters; to these are added *capreoli*, struts, or braces; *canterii*, small or common rafters, projecting to the extremities of the eaves; *templa*, cross, or longitudinal pieces, which serve to support or strengthen the *asseres*, or laths which support the tiles or covering.

ROTUNDA, a building which is round both within and without.

RUSTIC, the term is applied to those stones in a building which are hatched or picked in holes, resembling a natural rough appearance.

S.

SALOON, a lofty, vaulted, spacious hall or apartment.

SCAPUS, the shaft of a column.

SCIMA. See *Cyma*.

SCOTIA, a hollow moulding used in bases to capitals. See Plate 8.

SECTION of a building, represents it as if cut perpendicularly from the roof downwards, and serves to shew the internal decorations and distribution.

SHAFT, the trunk or body of a column between the base and the capital.

SOFFIT, the under part or ceiling of a cornice, which is usually ornamented; the under part of the *corona* is called the *Soffit*; the word is also applied to the ceiling of an arch, the under side of an architrave, &c.

SPHÆRISTERIUM, a circular court, for playing at ball, or other exercises; a tennis court.

STEPS for ascent. Vitruvius regulates their height to about ten inches; but to the ancient temples they are generally higher; to the Doric temples at Poestum they are sixteen, and to one twenty inches high; the place of ascent must therefore necessarily have been divided by one or more intermediate steps.

STRIGÆ, the flutings of a column.

STADIA, the same as *hippodrome*.

STOA, a *portico*. In one of these at Athens, *Zeno* taught his system of phi-

losophy, and instituted the sect named *Stoics*, from the place of their assembling.

STYLOBATUM, the pedestal of a column.

SYSTYLE, according to Vitruvius, the second method of intercolumniation, having two diameters between the columns.

T.

TAILLOIR, the *abacus*.

TALON, a *cyma reversa*.

TEMPLE, among the ancients, according to Vitruvius, there were seven different kinds or orders: see page 58. The word is applied to buildings used to decorate modern gardens, &c.

TENIA, the upper member of the Doric architrave; a kind of *listel*.

TETRASTYLE, a building with four columns in front.

THEATRE. The theatres of the ancients were of a semicircular form, the benches or seats *(cunei)* rose one above another, and were distributed to the different ranks of persons in the following manner: The foremost

rows next the stage, called *Orchestra*, answering to our Pit, were assigned to the senators, and ambassadors of foreign states; fourteen rows behind them to the *equites* or knights; and the rest to the people. That part which we call the stage, had this division; *Scena*, the scenes, which were adorned with columns, statues, pictures, &c. according to the nature of the play exhibited. *Postscenium*, the place behind the scene, where the actors dressed, &c. *Proscenium*, the place before the scene, called also, the *pulpitum*, where the actors played, and the *chorus* came to rehearse, answering to our stage. In the Greek Theatres, the *orchestra*, which included a very large space, made part of the scene, and here the actors danced; the proscenium, being very shallow or small. But in the Roman Theatres, this part was assigned to the senators, &c. there was a kind of canopy, or covering, stretched over the seats, to shelter from heat or rain, called *peplus*.

THEATRES were, for a long time, of wood, and without seats: Pompey first erected a theatre of stone, which would contain forty

thousand people; and to avoid the animadversions of the Censors, he dedicated it as a temple to Venus the Conqueress; and so contrived it, that the seats of the theatre might serve as steps to the temple. The temple being so placed, that those who came to the shows might seem to come to the worship of the goddess. There were afterwards several others built, one by Balbus; and another dedicated to Marcellus; which was large and very handsome, as appears by its remains. Adjoining this theatre, behind, and round the stage end, was a large double portico, where the spectators took shelter in very bad weather.

Of the *Vases* of the theatre, their theory and construction are to the moderns entirely unknown: but to investigate their history is nevertheless curious; all we know of them is, what Vitruvius reports, which is as follows. "Of the *brasen vases*, which are used on account of the magnitude of theatres, they are so formed, that upon being struck, they sound in themselves the notes *diatessaron*, *diapente*, and so in order to *disdiapason*; after which they are disposed according to the laws of music, in cells,

formed within the seats of the theatre in such a manner, as not to touch the wall, and have a vacancy all round them, to the top of the cell. They are situated inversely, and on the side which is turned toward the scene, they are supported by wedges, not less than half a foot high: also opposite the cells, in the beds of the lower seats, apertures are left, two feet long and half a foot high. Rome has not any theatre thus constructed; but the provinces of Italy, and many cities of Greece, can show them. Lucius Mummius, who detroyed the theatre of Corinth, brought to Rome the vases of brass; and which were used at the plays acted in his triumph: likewise many ingenious architects, who construct theatres in small towns, to save expence, make use of *earthen vessels* to help the sound, which, being adjusted according to rule, answer the purpose."

TONDINO, an *astragal*.

TORUS, or *Tore*, a large semicircular moulding, used in the base of columns. See Plate 8.

TRABEATION, the entablature.

TRICLINIUM, a dining room.

TRIGLYPH, an ornament peculiar to the Doric frize. See Plate 10.

TROCHILUS, the *scotia.*

TURRIS, a tower; in civil Architecture a pavilion, or garden temple.

TUSCAN *Order*, one of the five orders of Architecture.

TYMPAN, the flat surface or space within a pediment.

V.

VASE, the body of a Corinthian capital, also an ornament used in Architecture, &c.

VAULT, an arched roof, the stones or materials of which are so placed as to support each other.

VESTIBULE, the entrance to large houses; the part under the portico.

VOLUTE, the scroll or spiral horn, used in Ionic and Composite capitals.

X.

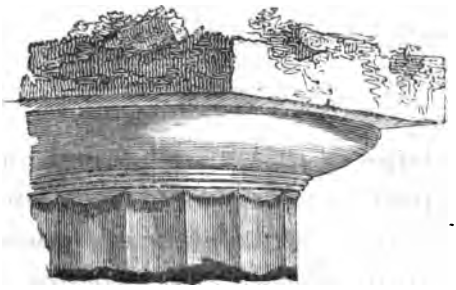
XYST, a large court with a portico on three sides, planted with rows of trees, where the ancients performed athletic exercises,—running, wrestling, &c. See *Palæstra.*

Z.

ZOCLE, or *Zoccolo*, a low square member, which serves to elevate a statue, vase, &c. Also when a range of columns is erected on one continued high *plinth*, it is called a *Zocle*; it differs from a pedestal, being without base or cornice.

ZOTHECA, a small room, or alcove, which might be added to or separated from another, by means of curtains and windows. See *Pliny's description of Laurentinum*.

ZOPHORUS, the frize.



OF THE VIGNETTES.

Page 17. An Idea of a primitive Hut, which shows the Origin of Columns, and some other parts peculiar to early Examples of original Architecture and antique remains.

Page 57. The Fascade of the Temple of Clitumnus, situate on the river of that name, near to Trevi, in Italy. This elegant little temple is of the Corinthian Order, and built of white marble; two of the columns are fluted in a spiral direction, as mentioned in the History of the Orders; the other two are ornamented with a rich foliage; the whole of admirable workmanship, as reported by Palladio, who has given plans and elevations of it.

Page 70, shows the construction of an ancient Roman Wall. The lower part is the reticulated work, *recticulatum opus;* the upper is a course of brick-work to give strength to the wall; the bricks are triangular, the better to lay hold of the ruble-work, *emplecton*, behind; the brick on the left hand side is an oblong square, and larger, to strengthen the bonding of the whole. The face of such walls was usually covered with plaister or stucco.

Page 89, is a Sketch of an antique Roman Doric Capital at Rome.

Page 134, Sketch of a Greek Doric Capital from the Temple of Minerva at Athens.

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